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FIELDS SERVED BY DW

The publication in which shipper, carrier, receiver, warehouseman and equipment manufacturer meet on common ground to obtain and exchange ideas and suggestions for more efficient and economical distribution of raw materials and finished products. D and W is a clearing house of information for all who are interested in:

SHIPPING by air, highway, rail and water, of raw materials and finished products of all kinds, from points of origin to points of ultimate destination. D and W insists that efficiency and economy are as imperative in transportation of commodities as in manufacturing and selling.

HANDLING of raw materials and finished products, in bulk, in packages, and in palletized units, for and during production, transportation, storage and distribution. D and W submits that handling costs are a vital factor in determining profits.

WAREHOUSING of raw materials, finished products and miscellaneous supplies for any or all of the following reasons: as collateral for loans; to anticipate seasonal buying; to obtain lower rates by making bulk rather than l.c.l. shipments; to have spot stocks readily available at important market centers; as an aid in developing new markets. D and W maintains that, for efficient and economical distribution, intelligent and practical warehousing is indispensable.

DISTRIBUTION of anything anywhere from points of origin and production to points of ultimate use and consumption whether sectional, national or international. D and W takes the position that more efficient and economical distribution is the present major problem of modern business.



This advertisement is one of a series which is appearing in national magazines and newspapers as Consolidated Vultee's contribution toward a clearer public understanding of transportation's role in the war, and its postwar opportunities and responsibilities.

4 days out—4 days back—and the weather be damned!



1. "Tired? I'll say I am! You'd know, if you'd ever flown a 200-mile-per-hour cargo plane in from the Orient for the Air Service Command." He was only 22 years old, this Liberator Express pilot. He'd just brought his ship in — the end of a round-trip run on the longest air-freight haul in the world. From India, 14,000 miles away, to Patterson Field, outside Dayton, Ohio!



2. Day in, day out, the huge, long-range Liberator Express transports roar down this Ohio runway and streak southward to Brazil's hump, then across to Africa, and on to the very fringe of Jap-held Burma. The boys who fly this shuttle run — in all kinds of weather — call it the 8-day "Pony Express," — 4 days out, 4 days back.



3. Each Liberator Express carries many tons of high-priority cargo — aircraft parts and supplies urgently needed by American airmen based halfway around the world. Magnetos, fuel pumps, jungle kits, propellers, starters, aircraft engines, radios, and other vital accessories. "It's a rugged run," the pilots say. "But our combat flyers are doing a terrific job out there — and how they need the stuff we take 'em!"



4. Dramatic as the India run is, it's only one of the ways in which we're solving the stupendous problem of supply for United States air bases the world over. Every day, thousands of tons of supplies are loaded into freight cars and trucks at huge Air Service Command warehouses scattered over the U.S.A. The furious tempo of Allied aerial warfare calls for miracles of transportation, not only by air, but over highway, by rail, and on the sea.

CONSOLIDATED VULTEE

A Dozen Good Reasons

MAKING a hasty remark the other day, and having to justify it then and there, put us on the spot for a few minutes, and it wasn't comfortable, but, as it turned out, it may be of interest to others, particularly warehousemen.

We were discussing the American Warehousemen's Assn. with an operator who is not a member. Having made an off-hand remark that there are a dozen good reasons why a reputable warehouseman should want to be a member of the AWA, we were asked to name them.

The first few were easy. Then we had to gulp and take a couple of deep breaths. A dozen had never seemed so many before. But we finally came up with a full dozen, an old fashion baker's dozen, in fact.

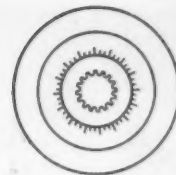
With what we hope is justifiable pride, we now pass them along for the benefit of others who may be interested, in about the same order that they occurred to us during those few difficult moments of concentrated anxiety.

Here they are, thirteen good and valid reasons why any public merchandise or refrigerated warehouseman should be interested in belonging to the AWA:

1. Because AWA members are preferred by many bankers and shippers: AWA members conform to definite warehousing standards and practices.
2. Because AWA is the most effective medium for organized group action on legislative matters, post-war planning and current warehousing problems.
3. Because it is in close touch with Washington activities through its Washington offices and its affiliation with the Chamber of Commerce of the United States; and because it keeps its members informed of developments in Washington likely to affect the warehousing industry.
4. Because it has had more than 50 years of successful experience in conducting association affairs. Its staff knows the problems of the warehousing industry.
5. Because of its annual conventions, which are attended, not only by representative leaders of the warehousing industry, but also, by many manufacturers, distributors, transportation executives and government officials.
6. Because its Emergency Advisory Committee is working on plans for post-war, including recommendations for the disposal of surplus government warehouse space and modernization of warehouse handling and distribution services.
7. Because its Foreign Trade Zones Committee has proposed and is working to have existing custom bonded warehouses in port areas designated as foreign trade zones. Incidentally, in this connection, with the development of air cargo after the war, this proposal may be a matter of considerable interest to inland warehouses also.
8. Because its Committee on Cost Accounting and Rating Procedure expects to present, in the near fu-

Editorials

'... around every circle another can be drawn ... every end is a beginning ...'



ture, a practicable, standard accounting system for warehouses, calculated to save time, trouble and money.

9. Because of the establishment of The Refrigeration Research Foundation by the cold storage division of the AWA, considered by users and operators of cold storage plants, as well as by scientists, as one of the most important contributions of our time to the science of refrigeration.

10. Because of the qualifications for membership. Warehouses in the AWA have been elected to membership because of their known reliability, their warehousing efficiency and the suitability of their equipment.

11. Because of its surveys and sales promotion activities in behalf of public warehousing in normal times.

12. Because of what it has done for the country in furthering the war effort, evidence of which may be read in numerous letters and public statements made by officials of the War Department, the Office of Defense Transportation and other governmental departments and agencies.

13. Because, with the motto "our integrity is your security," as its foundation principle, the AWA has developed merchandise warehousing into a major industry which has proven itself indispensable in war, and equally essential for efficiency and economy of distribution in peace.

• • •

It Affects Us All

DISTRIBUTION, unfortunately, means different things to different people. Yet everybody admits that distribution costs affect all industries and all consumers. Despite this, most businessmen continue to think of distribution as a local, individual or regional problem. Why?

Distribution isn't just marketing or merchandising. Distribution starts with the movement of raw materials and ends only when a finished product has reached its ultimate destination, the final user or consumer. Transportation, handling, packaging, warehousing, financing and marketing are all integral parts of distribution.

Until there is a broader appreciation of this concept, and a clearer understanding of the inter-relation of the parts to the whole, distribution cannot be made more efficient and economical.

Business will have to attack this problem on a broad front after the war, because distribution costs affect so vitally, not only production and sales, but also, our whole national economy.

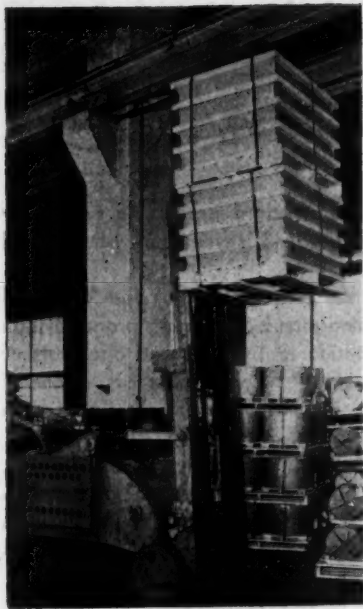


FIG. 3. Battery fork truck bearing unloaded and fired unit loads of refrigerator-machine motor rotors. There are 200 rotors per unit weighing 3000 lb.

THE demands of war industry are so great that many large industrial organizations have been compelled to expand a great number of their facilities for handling and storing supplies. They have also rearranged their production layouts to take care of new commodities directly contributing to the war effort.

Because of the need for immediate results, some of these changes had to be made without thought or preparation for the coming post-war period. On the other hand, some far sighted executives realizing the importance of being prepared were able to give consideration to future requirements as well as immediate needs in planning or designing their expansion program.

The latter is true of the new Order and Stores Building of General Electric Co., Schenectady, N. Y.

Advice Sought

Shortly after the increased production schedule was announced, it was realized that an immediate change should be made in the location of the Order and Stores Division to serve both the existing and the expanded plant more efficiently. Consequently, it was decided to obtain the very best advice possible from all sources in order to create the most efficient layout to facilitate the receiving, handling and storing of materials.

The supervisors in charge were advised that it would be necessary to plan for a new building and they were instructed to investigate and consider every possible new method to serve the immediate need and to take care of post-war requirements as well.

Many Plants Visited

Many plants were visited both in and outside of General Electric Co.

design for industry

In planning its expansion program, General Electric Co., has created a model design for industry in its Order and Stores Building at Schenectady, N. Y. Instead of putting up a building and then trying to fit a system into it, the G. E. building was constructed around a carefully planned handling and storing system that makes use of the most modern and complete handling equipment obtainable. This is the first installment of a two-part article on the subject.

part 1

By MATTHEW W. POTTS

Materials Handling Editor

o o o

units, to inspect methods and to gather information regarding all modern methods and practices of materials handling calculated to effect economies in time and space. It was always kept in mind that these methods would have to serve the company for many years to come when the plants would again be in production on items other than those needed for war.

The result is a design for industry. A modern order and stores building has been equipped with the most com-

plete handling equipment possible to obtain. Moreover, the building has been built around a handling and storing system instead of having the building erected first and then trying to fit a system into it.

One-Story Building

The New Order & Stores Building was completed in 1941. It is one story, except for the offices which occupy a second floor across the front. The roof of the main floor is a moni-

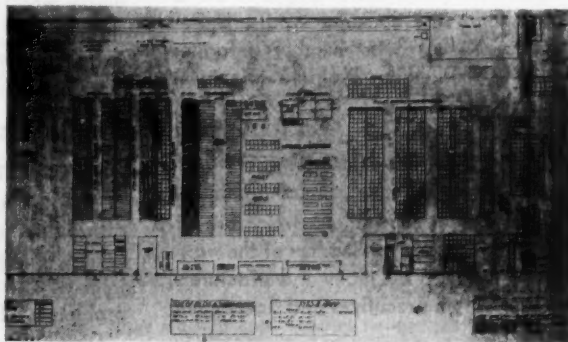


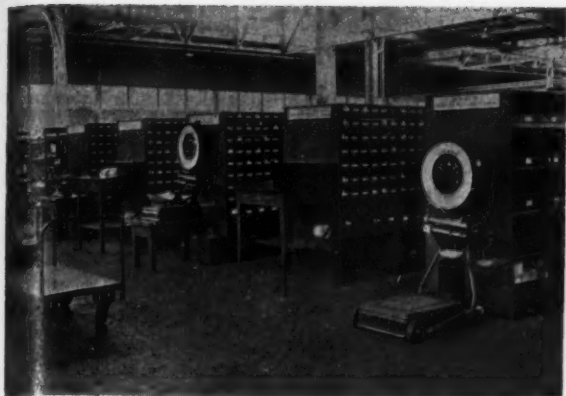
FIG. 2. Floor-plan layout of Order and Stores Building.

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FIG. 12. Bars and tubes in stock racks.

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Reading from top to bottom, left to right: FIG. 5. Retail hardware racks, counting scales and transfer trucks. FIG. 4. Interior view of Order and Stores Building. FIG. 6. Retail metal racks. Also distribution point for orders from carriers. FIG. 7. General view of bar stock in racks. FIG. 8. Arm racks for heavy loads of steel bars (approx. 90,000 lb.) served by crane. FIG. 9. Sheet and bar stock in Christmas tree type racks. FIG. 10. Sheet and bar stock in tree racks. These racks are loaded and unloaded by crane.



FIG. 1. Exterior view of Order and Stores Building.

tor type, giving ample light. It is heated by steam through overhead heaters thermostatically controlled. Windows are placed at a height to avoid interference with inside equipment and outside intrusion. The building is ideally situated in a new area of the plant known as North Avenue which makes it easily accessible to incoming transportation as well as distribution to the plant. The building is 240 ft. x 560 ft. of brick and steel construction with a floor space of 134,000 sq. ft. Fig. 1 shows the exterior view, and Fig. 2 the floor plan layout.

Receiving Bay

One bay of the building, 60 ft. x 520 ft., is allotted to the Receiving Section for freight received via truck and rail. This bay is located on the north side and runs parallel with the length of the building. It is served by two 5-ton cage controlled cranes for 400 ft. of its length and by three 5-ton floor controlled cranes which run crosswise of the building. Of this area in the Receiving Section, 10,400 sq. ft. are used exclusively for incoming truck shipments.

Sunken tracks are conveniently located within the building and will accommodate eight or nine freight cars, and pits are provided so that truck unloading is also at the proper level. Ramps into and out of the building are of the right grade to permit the entrance of tractor trailer trains, fork trucks, and other mobile materials handling equipment to facilitate the distribution of materials to the factory production area.

While a considerable quantity of freight is received by rail, in the past few years the tonnage hauled by motor transportation has increased tremendously. This is due to the fact that it is quicker and in some instances provides overnight service.

Truck Pits

In the planning of this building, considerable thought was given to the importance of truck pits. The main truck pit has an inside clearance or depth of 42 ft. and is wide enough to accommodate eight trucks. Four motor operated doors completely enclose this area, making it warm and comfortable for employees to work in inclement weather and allowing a cool breeze to blow in while they are open during the summer months. A large



FIG. 11. Bar copper, received on boards, being placed in rack, using push-button-control crane and rubber-covered slugs.

heater located above each door automatically throws a blast of hot air downward each time one of the doors opens during the winter months.

Two spaces in the pit are reserved for company trucks making deliveries to the factory, which leaves six spaces available for unloading motor transportation trucks. The company's own mail trucks, which, in addition to mail, transport miscellaneous freight from allied plants, are first to arrive each morning. These are generally unloaded by 9:30 a.m. and are then sent to the company garage for servicing. The material on these trucks is checked, marked, and ready for delivery to the factory as soon as the trucks are unloaded. Some of the materials are shipped in palletized unit lots.

46 x 48 Pallets

In most cases materials received are placed on standard size wooden pallets 46 in. wide x 48 in. long which after being checked are marked for delivery and immediately loaded on trailers by fork truck, if they are to be transported to other parts of the plant. If intended for the General Stores Section, they are trans-

ported by fork trucks directly to that area. In some cases it is possible to have materials shipped in palletized unit lots which are quickly handled, transported, and placed in storage as shown in Fig. 3.

Long bar stock and pieces too heavy to handle by hand can easily be handled by the 5-ton crane service and here again efforts are made to unload direct to pallets or trailers so that one handling is eliminated.

Express and Air Cargo

In addition to freight and truck shipments, it is necessary to handle express, air cargo, and parcel post. The receiving of such types of shipments is in an area apart from the general receiving bay but in the main building on the north side directly under a portion of the office. This also contains a pit for two trucks, one incoming and one outgoing.

The balance of the main floor, consisting of 93,000 sq. ft., is for warehouse facilities and is shown in Fig. 4. Crane equipment for this section consists of the three 5-ton cranes running crosswise of the building which as previously mentioned also serves part of the Receiving Section. In addition, there are three 3-ton capacity cranes; all are of the push button type controlled from the floor.

Equipment

The stock keeping equipment used was designed to solve individual handling problems. Special consideration has been given to flexibility so that the installation may be dismantled and reconstructed in different style without changing the basic form.

Hardware racks shown in Fig. 5 constitute retail stocks of bolts, nuts, screws, etc. and the type of rack used has been governed by the kind of material to be stored.

Retail metal stocks in rolls and coils are stored also in racks of demountable type, as illustrated in Fig. 6, which also shows one of the terminals of the carrier system through which orders are received from the office after approval.

Bar stock is retailed from racks shown in Fig. 7. These racks are equipped with liners to expedite racking operations and are demountable. Certain sections may be added or removed without altering the main unit.

Wholesale racks vary in type according to the kind of material to be stored. Fig. 8 shows a single unit designed for heavy loads of steel. It is served by overhead crane. The rack is easily moved when empty.

Copper and brass are stored wholesale in racks shown in Fig. 9, 10, and 11. These racks are very flexible. The arms are adjustable to different spacing and additional sections can be added on the end. They are served by overhead crane.

Stack bins shown in Fig. 12 are valuable where large, fast moving stocks of a particular size are to be stored. Slings can be attached readily. The bins are useful also for storing temporary stocks in volume; they are removable in sections.

(To be concluded next month)

THE Maritime Commission has been asked by shipping and shipbuilding interests on the Great Lakes to initiate studies and take appropriate measures toward the establishment of an American flag shipping service from the lakes to serve European and West Indian trade routes, and possibly other world trade areas, reflecting post-war hopes for an expanded transportation service for the world's greatest inland oceans.

Many of these same Great Lakes interests have opposed the opening of the St. Lawrence deep waterway, largely because it would bring foreign ships into competition with Great Lakes trade, but changes brought about by the war have convinced many of them that the St. Lawrence development is a vital necessity to the Great Lakes area.

Leatham D. Smith, president, L. D. Smith Shipbuilding Co., Sturgeon Bay, Wis., at the recent Great Lakes Shipping Conference in Chicago, pointed out that the program which the United States has been carrying on in the war effort, not only in supplying its own forces, but also through lend-lease, is using up our basic raw materials at a tremendous pace, which means that in the future there will need to be greatly increased importation of raw materials from foreign lands.

Foreign Markets

Foreign markets can be greatly stimulated for our manufactured products if we will take essential raw materials from the foreign lands which buy our products, he said. Further, in order to operate our new large merchant fleet, freight must be provided, and this must be largely in cargoes to and from American ports. The continued employment of our force of merchant sailors, he stated, should be a major concern.

"There is only one way in which the lakes can import many raw materials without being put to a serious freight disadvantage over seacoast centers, and that is by the opening of the St. Lawrence River to deep-draft shipping," Mr. Smith declared.

"It is the responsibility of industry in the Great Lakes area to safeguard their future by long-range planning in this regard. The use of the ships of the new American fleet for this traffic would provide employment for many men and keep the supply of essential materials, even from foreign lands, strictly under American control."

Former Experience

After the first world war, a greatly expanded shipping market was confronted with the necessity of seeking new sources of traffic, and the St. Lawrence gateway was recognized as an opportunity by European ship owners. British and Scandinavian tramps, capable of carrying about 1,500 tons on a 14-ft. draft, were engaged on full-cargo charters to move bulk commodities from European ports to the Great Lakes.

These steamers usually carried china clay, wood pulp, manganese ore, or fertilizer on the westbound trip, and depended primarily on grain for a return cargo.



Before the war, many foreign flag ships operated on regular schedules between Europe and ports on the Great Lakes. Most cities on the Lakes have ample terminal facilities, an excellent example being the North Pier Terminal Docks, Chicago, shown above.

Possibilities of Great Lakes—Overseas Trade

Studies and discussions now going on reflect intentions of various interests in Middle West to establish an American flag shipping service between the Great Lakes and European and West Indian trade centers.

By ANNA KLINE

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Importers and exporters enjoyed substantially lower costs through the use of these vessels, rates over any direct service naturally being based on a lower scale than rates involved when two or more carriers are employed to furnish a corresponding service. Further economies were achieved through elimination of re-handling and trans-shipping costs.

First Regular Schedule

In 1933, a Norwegian steamship

company (the Fjell Line) which had for years operated tramp ships between the Great Lakes and Europe, inaugurated the first direct Great Lakes service on regular schedule to the Canadian maritime provinces, United Kingdom, and continental Europe.

Other regular general cargo services were subsequently established by foreign flag interests (Sweden, Denmark, Finland, Holland), and a French service was planned to participate.

(Continued on page 58)

"Anything, Anywhere, Anytime" Is Materials Handling Slogan At Army Engineers Depot

The Army Engineers are engaged in a job of making the impossible commonplace. Backing them up are a superlative supply system and warehousing and materials handling methods almost beyond any peacetime comparison.

LESS glamorous perhaps than their compatriots in other branches of the service, the Army Engineers are going to get their share of credit for an Allied Victory in this war. Particularly will that credit come from industrial and distribution experts who are able to realize the complexity and scope of the tasks accepted and solved by the Engineers Corps.

The Engineers are engaged in the job of making the impossible commonplace. Hacking out an airfield in a tropical jungle, building an island outpost in the remote Aleutians, bridging a river under enemy fire, such jobs are all in the day's work to these men.

Backing them up is a superlative system of warehousing and materials handling methods almost beyond

any peacetime comparison. Materials handling systems, even in today's war plants, are usually set up to follow a pattern of movement fairly well fixed.

Depot an "Inland Port"

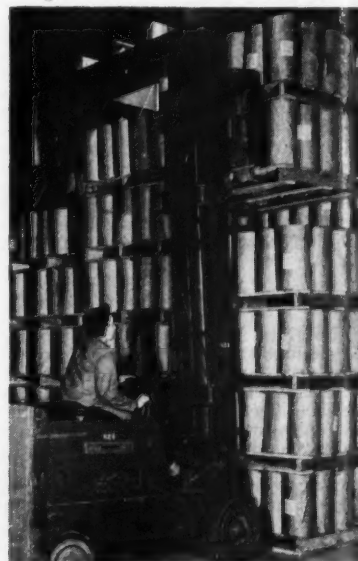
Contrast this with the work of the Marion, Ohio, Engineers Depot, an "inland port" which has the job of receiving, storing and shipping equipment of all kinds to Army Engineers wherever they may be. Consider also that the principal source of "man-power" in this Depot are fork trucks operated by women.

This Depot is just outside Marion, O. Its buildings cover several thousand acres of what was formerly rolling farmland; its boundaries include some 21 miles of railroad track over

which five switch engines are continuously operating. The "stock" carried includes everything from camouflage material to parts for an 88-ton generator.

A visitor to this Depot, which incidentally is one of the largest of its kind, is at once impressed by the vast amount of material stored and by the seeming absence of large numbers of workmen. The gas-powered fork

This pallet load of rolled burlap is being stacked by a fork truck of 6000 lb. capacity. Enough of this material has been handled by the Marion Engineer Depot in the past few months to make a continuous two-inch strip, long enough to reach from New York City west through San Francisco, around the world, and back to San Francisco.



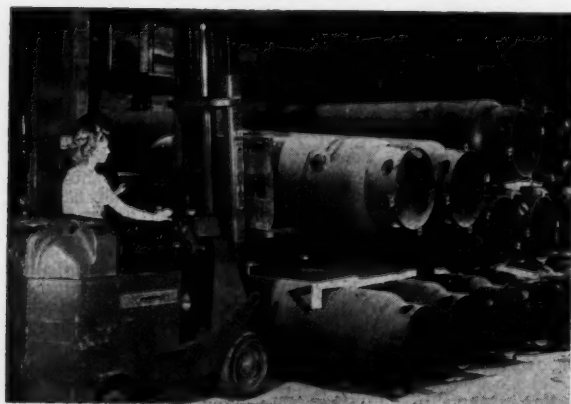
This large box contains one of the thousands of pieces of heavy equipment being used by the Army in all corners of the world. It is an item which is supplied to troops in the field, at home and abroad.



Large barrels of chemicals are easily and quickly brought from freight cars into the warehouses and stacked on pallets. This compact fork truck, of 3000 lb. capacity, carries a capacity load.



Tanks, fittings, pipe and engines, all parts of huge hydro-electric and oil refinery plants, are handled efficiently by fork trucks.





Exide-Ironclad Batteries give **POWER** to industrial trucks

HERE is a battery noted for its long-life, dependability, and extreme ease of maintenance. Today, with a shortage of labor and an unprecedented demand for material, the efficiency and economies effected by Exide-Ironclad equipped industrial trucks is important.

For loading, unloading, and load-shifting, you can't beat the electric industrial truck. When it is powered by an Exide-Ironclad Battery, you have a combination that streamlines to the utmost your materials handling system.

Write us for a FREE copy of the bulletin "Unit Loads," prepared by The Industrial Truck Statistical Association. It tells how to cut handling costs up to 50%... covers latest developments in materials handling... and includes actual case histories.

EXIDE-IRONCLAD BATTERIES OFFER THREE VITAL POINTS OF SUPERIORITY

MORE POWER, MORE PRODUCTION: An Exide-Ironclad delivers its power at uniform voltage to assure constant hauling speeds. There is always a giant surge in reserve when an Exide powers your battery propelled vehicles.

LONG-LIFE SAVES MATERIALS: Every Exide is built to last, and saves vital materials by squeezing the last ounce of use out of the materials in it. When you buy an Exide, you definitely... Buy to Last and Save to Win.

EASY MAINTENANCE, SAVES LABOR: Exides are kept charged by the simplest method ever devised. With the Exide Charge Control Unit all you do is connect battery to the charging source and turn a knob.



Exide
IRONCLAD
BATTERIES

"BUY MORE THAN BEFORE
IN THE 5TH WAR LOAN"

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

trucks and their women operators, however, are always busy, shuttling back and forth from loading docks to stock piles, handling literally anything and everything.

The activity at the Depot is obvious; but to fully understand the vital function this Depot has in the success of the war effort, a broader view is essential. The Depot's first job of course is to serve as a receiving station and warehouse for equipment manufactured and sold to the Engineers. Trainloads must be unloaded quickly so that freight cars are not tied up. All equipment and supplies must be safely, efficiently and speedily stacked and stored so that they will be instantly available for re-shipment.

Flexibility Essential

Complicating this particular phase of the Depot's work is the fact that there is little advance notice of incoming material. The fork trucks and their operators make up a team that's flexible enough to handle any type of equipment, whether the accent is on volume or variety. The fork trucks are equally versatile at moving, stacking pipe, ice boxes, stoves, generators, motors, air pressure tanks, tires or barrels of chemicals.

The vital need for handling equipment of this type can be illustrated by saying that no amount of manpower could be assembled in even these huge buildings to move such volume by old methods, even if the manpower were

available. Another important asset of fork trucks is their ability to make every foot of storage space count. Ceilings are 20 ft. above the floor and many stockpiles come close to reaching this height, thus saving valuable floor space. High stacking like this would be out of the question without the aid of fork trucks.

Vital Supply Job

Receiving and storing, of course, is only one phase of the Depot's work. Its second and equally important phase may begin way down in the tropics or in some far northern outpost with a demand from the Engineers for certain types of equipment. Suppose it is to be parts for a generator that's being constructed down in Australia. Here the time element becomes as vital as the equipment itself. Convoys can't wait. Equipment must arrive at the port of embarkation at exactly the right moment, neither too soon nor too late. An error means either congestion at the port or no shipment at all.

The importance of this timing extends back across the country to the Depot. Freight cars are valuable commodities, too, nowadays. If three or four, or 50 are spotted at the Depot to receive certain articles, they must be loaded at once and sent on their way.

Any breakdown in the materials handling system means failure all the way along the line, and this line of supply reaches right up to the battle

line. It's on these rush loading jobs that the fork trucks really go into action. Working at top speed under the deft touch of women operators, these trucks are flexible enough, and strong enough, to pick up one- or two-ton loads, move swiftly down the storage aisle and out to the loading dock. Their journey is not over even then, for they carry the load right into the car, spot it exactly as desired.

Operate in Teams

An interesting point is that these fork trucks have proven themselves so vital that several are carried "in stock" at the Depot to be shipped as needed for materials handling jobs overseas. Many of them are already seeing action in foreign lands.

Depot officials also give much praise to the women operators of the fork trucks. It's a 10-hour day for them in a job that's less glamorous but certainly no less important than any other war job. These operators are experts; able to take on any materials handling job. A case in point is the technique they have developed in moving cases too big to be lifted by one set of forks. Here, two operators and two trucks go to work at opposite ends of the case. Since the drivers can't see each other, they have worked out a code of signals using the horns on the trucks. Operating as teams they are able to move freight that could not be handled so efficiently in any other way.

Today's problems in Materials Handling solved with the modern

HYSTER 20 FORK LIFT TRUCK

— 2000 lb. capacity —

Note these advanced features:

- **Pneumatic Tires**—Operates efficiently in outside storage yards as well as inside on floors.
- **Water Mufflers**—Eliminates all fire hazards.
- **Gasoline Powered**—25 H.P. air cooled engine.
- **Compact, Streamlined Design**—Only 71" long by 36" wide and its rounded corners provide extra maneuverability in crowded areas.
- **Trunnion Steering**—Turns in its own length.

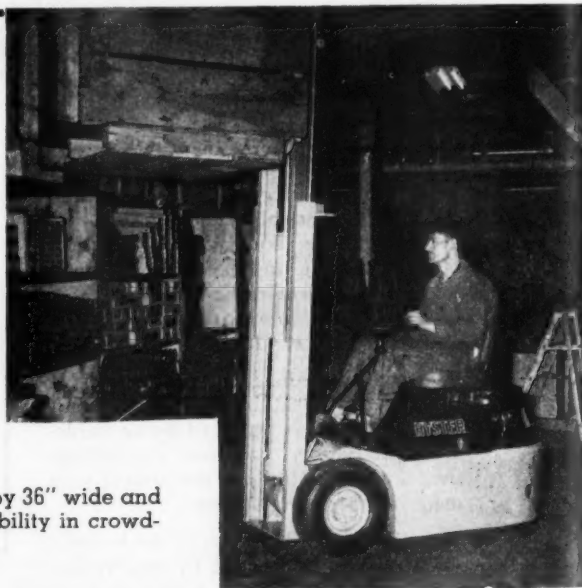


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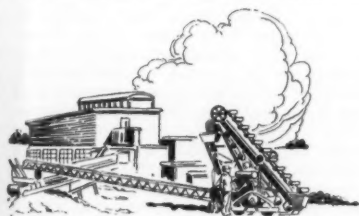
A MODERN MANUAL OF MATERIALS HANDLING EQUIPMENT

This is the ninth installment of Mr. Potts' modern manual of materials handling equipment. It is being published serially in D and W exclusively. Each major type of handling equipment will be named, defined, illustrated, described and its usual applications explained.

Loader (Portable Bucket)

Definition—A machine used for raising materials, generally bulk materials, such as coal, coke, sand, gravel, crushed stone, etc., from the heap on the ground or floor to a higher elevation for dumping or feeding to other equipment.

Description—The most usual form is a continuous bucket elevator with the buckets mounted on chains, and chains placed in an inclined position on a steel framework, and driven through a head sprocket either by gasoline or electric motor power. The



Portable Bucket Loader

framework supporting the elevator can be mounted either on large wheels, on industrial trailers, or on gasoline-operated wheel tractors or crawler type tractors, depending upon the operating conditions. Various arrangements can be had at the loading end for self-feeding such as revolving discs, a screw or flight conveyor at right angles to the buckets, or a short feeder conveyor of the drag scraper type. A number of the units are self-loading by having teeth or claws on the edge of the buckets, so that the buckets themselves can dig into such materials as crushed stone, fertilizer, coke, etc. Many arrangements and designs of this type equipment have been made to elevate to various heights, some having elevator sections of considerable length, the entire section being pivoted so as to reduce the amount of headroom required when moving from one place to another.

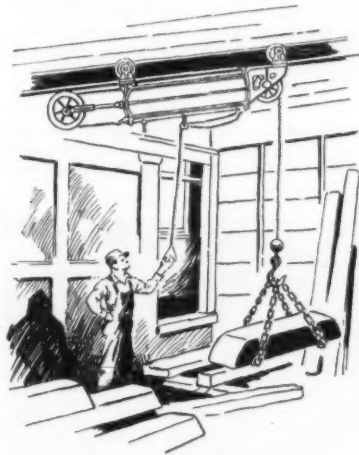
Application—This type of equipment has been used on many applications such as loading bulk materials in storage yards, to wagons, trucks, etc., or for digging and elevating materials so they can be fed to other conveyer systems. Also for the elevating of materials to a chute, for

bagging, screening, etc. Frequently, it is used in municipalities for snow removal, taking the snow from the streets and loading it directly into trucks or trailers.

Hoist (Air Cylinder)

Definition—A hoist in which a direct pull is obtained by a long stroke cylinder and piston operated by compressed air.

Description—This type of hoist is made in several different forms and can be operated either in a vertical or horizontal position. It consists of a cylinder, usually made of steel, which is ground and polished on the inside. The piston and rod are constructed of steel and made tight by leather packing rings. The motive power is compressed air. Therefore, the capacity of the cylinder air hoist varies with the diameter of the cylinder which



Air Cylinder Hoist

ranges from 3 in. to 24 in., and the air pressure varies from about 60 lb. to 100 lb. per sq. in. of piston surface. They have been made to handle from two tons up to 20 tons. For convenience and safety in operation, the air cylinders are equipped with several auxiliaries, such as: an air admission valve which will allow control of the speed of hoisting or lowering; air cushions to prevent jar at the end of



By MATTHEW W. POTTS
Materials Handling Editor

All drawings by Harry T. Fisk

travel; adjustable stops for use in hoisting and lowering between fixed limits; top safety check for preventing the pistons from flying violently to the top position should the load become accidentally detached, and an automatic arrangement to prevent slow creeping downward due to leakage of air.

Frequently, air hoists of the cylinder type are mounted in a vertical position. Comparatively short lifts only can be obtained, as the travel of the piston rod to which the hoisting hook is attached is limited by the length of the air cylinder. The vertical position is the most efficient, but where head room is limited, the cylinder may be placed in a horizontal position. When used in the latter position, a sheave is placed at the end of the piston rod on hoists having only a short stroke, and the hoisting hook is suspended from a wire rope which passes over the sheave and is made fast to a fixed point on the hoist. As the piston moves outward, rope passes over the sheave and raises the hoisting hook. Multiple sheaves may be installed and a greater height of lift obtained by

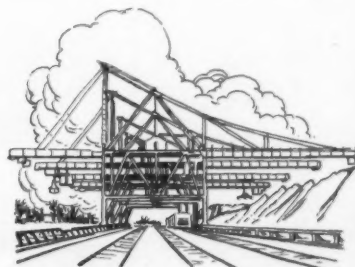
(Continued on page 62)

Unloader (Traveling Cantilever)

Definition—An unloader which cantilevers above a ship that's being unloaded on one side and over the storage pile on the other side, and at the same time, capable of discharging to cars under its support section.

Description—This unit is built somewhat on the same construction lines as a cantilever crane, but is used

(Continued on page 62)



Traveling Cantilever Type Unloader

Carbon Dioxide Fire Extinguishing System Installed at Naval Storage Depot

Relatively new type of built-in extinguishing system is designed to smother fire quickly in large storage areas containing flammable liquids, without damage by the extinguishing agent to any of the materials with which it comes into contact.

THE use of carbon dioxide as a fire-extinguishing agent for widely varying problems of space dimension and specialized hazards is reported to be increasing. A recent installation by Walter Kidde & Co. Inc., for the U. S. Navy in Philadelphia is an interesting example. This system would have been considered impractical a few years ago; for it is said to protect every cubic inch of space in a building 577 ft. by 118 ft. 8 in. by 16 ft. 8 in. The building is used to store highly flammable liquids.

It has been found that where a system is engineered so that the gas can be delivered at a rapid rate through multiple nozzles, quickly reducing the oxygen content of the air to a point below which fire cannot exist, unexcelled protection is achieved. It is this "sprinkler-type" of system which has been designed for the Aviation Material Storehouse of the Naval Storage Depot in Philadelphia.

Aviation Stores

The Depot is one of a series of supply centers which the Navy has been constructing all over the country to keep a constant flow of aeronautical supplies moving to the airfields, at home and abroad, where Navy planes are stationed and serviced. In

these depots large quantities of parts, plane sections and miscellaneous supplies are kept ready at hand so that fields can cut corners by simply requisitioning the central supply depot and so receive needed equipment immediately rather than having to place an order with the original producer and risk loss of time.

The Philadelphia Naval Storage Depot includes some dozen buildings. The Aviation Material Storehouse is divided by concrete and steel walls into four separate spaces. The doorways between these divisions are protected by self-closing fire doors. In these divisions or rooms are stored the paints, oils, greases, glues, dopes, lacquer and other flammable liquids used so extensively on planes of all types. To guard this enormous fire hazard the company's engineers designed and installed what is said to be the largest built-in carbon dioxide fire extinguishing system in the world, from the point of view of cubic feet of space protected.

Battery of Cylinders

A battery of 280 steel cylinders, each containing 50 lb. of liquefied carbon dioxide, which will expand about 450 times in volume upon release, protect the four rooms.

Seven tons of fire-killing gas can be discharged by means of directional valves into any one of the four spaces.

The cylinders are manifolded in five frames containing 56 cylinders each, one acting as a master control frame. There are four valve frame assemblies, each including five automatically operated directional valves, which in the event of fire direct the gas to the particular space involved. Because of the importance of stopping the circulation of air in the presence of fire, each valve frame has 2 plunger-type switches operated by the valves, one to close a circuit and sound an audible alarm, and the other to open another circuit, stopping the ventilating fans and closing the louvers so that circulating air will not feed the flames.

Discharge Nozzles

Five supply lines lead from the valve frame assemblies to each one of the four protected spaces. These terminate in a total of 296 shielded discharge nozzles, placed one-third of the distance from floor to ceiling on each of the poured concrete upright posts and at other strategic spots in the storage rooms. These shielded nozzles deliver the gas from the piping system, and are an important item in this carbon dioxide fire-extinguishing system. They eliminate any high velocity jet effect of the discharge which might occur with unshielded nozzles, prevent objectionable turbulence and accurately control the fire-extinguishing gas, which builds up in a blanket from the floor, thereby providing the highest concentration at the base of the flames, and controlling any spill fire which may be present.

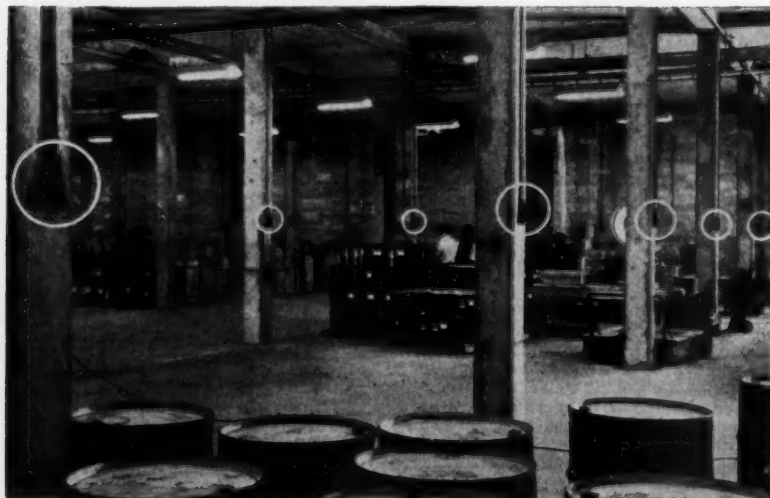
Twenty-four pressure operated trips are incorporated in the supply lines to control the self-closing doors. Passage of the carbon dioxide through the piping retracts a pin, releasing the control weight and allowing the door to close, isolating the burning space.

35-Second Interval

Placed about the ceilings at regular intervals are 48 heat actuators, operating on rate-of-temperature-rise in the room. Fire causes heated air to rise to the ceiling, expanding the air within the actuator. A wave of pressure passes through the tubing to a release mechanism located at the directional valves. Instantly weights drop, opening the proper directional

(Continued on page 66)

One of the storage spaces for highly flammable materials, at Philadelphia Naval Storage Depot, showing multiple discharge nozzles arranged in sprinkler fashion on each upright post and against wall. These can deliver a high concentration of fire-killing gas throughout the room in less than half a minute.



Fresh Details on the Jersey City Plan for More Efficient Handling of Freight Cars

The report for the first quarter of this year at the Jersey City Quartermaster's Depot shows a total of more than 2,000 cars, inbound and outbound. More than 91 per cent of all inbound cars were unloaded within free time. All of the outbound cars were loaded within 24 hours.

IT seems that in the few remarks I made at Philadelphia,* I told only a part of the story. Now I am invited to give you the sequel, whether the doctor is honestly taking his own medicine, and how the patient is getting along.

We think, at Jersey City, that we are doing very well in our efforts to conserve car supply, but not good enough. We have not achieved the perfection at which we are aiming, which is to unload all cars within 24 hours; but we keep on trying.

Physical Situation

Let me give you a thumb-nail sketch of the physical situation at the headquarters warehouse. There we have a track capacity of 18 cars to serve a multiple floor storage area of considerably over a million square feet. You can imagine it is a busy place, when you realize that there is a complete turnover about every 60 days. To accommodate the inbound and outbound movement of cars with two scheduled drills per day, and a third or fourth in special situations, means that we are engaged in a constant game of checkers with cars as men on the checker board.

Much of our tonnage, in and out, is handled by motor trucks, and some by barge, but the greater portion is handled by rail.

First Quarter Report

Our report for the first quarter of this year shows a total of more than 2,000 cars, inbound and outbound. Of the inbound we unloaded 310 cars before free time; during the first day of free time 597 cars were unloaded, and 387 cars during the second day. There were 123 cars unloaded after 48 hours. More than 91 per cent of all inbound cars were unloaded within free time. All of the outbound cars were loaded within 24 hours. In fact, some of them were inbound cars made light, reloaded, and sent out before free time began on the inbound movement. There were 439 net credits on inbound, and 562 on outbound.

At Philadelphia I told you, in a general way, something about the distribution and use of our morning report. Specifically, here is how it is prepared and what is done with it.

We receive a telegram from the shipper the day a car is loaded and

By LT. COL. C. D. O'NEAL

Transportation Officer
Quartermaster's Depot
Jersey City, N. J.

From a recent address before the Atlantic States Shippers Advisory Board at Syracuse, N. Y. A report of the address made by Lt. Col. O'Neal at Philadelphia appeared in the March issue of D and W. This is a sequel to that talk and presents fresh evidence of the Jersey City QM Depot's efficiency and additional facts of great value to shippers.

shipped, showing car number, contents, weight, and bill of lading, if moving on Government bill of lading, or statement that it is moving on commercial bill of lading. That forms the basis for our Cars Enroute Section of the report; and each morning this information is tabulated for the report. Also, we receive bills of lading by mail, usually before the car arrives, and this is checked against the record to be sure that the car is on the report.

This Enroute Section is subdivided to show the warehouse at which the car is to be placed on arrival. Thus we have a picture of cars enroute, by car number, commodity, origin, date of shipment, and warehouse to receive them on arrival. Each day's arrivals are checked against the Enroute Section and eliminated therefrom.

We know when most cars arrive before the railroad can send us the arrival notice. Our car service man and the railroad yard representative meet at 8:00 a.m., and any new arrivals are recorded then and there, and this information is added to the report.

Cars in Break-up Yards

At this time they also get a report of cars in the break-up yards, which may not be reported as arrivals for placement until they are brought down to the service yard. This may be later in the same day, or even a day or more later, depending upon conditions. But we have the advantage of knowing what is in the outer yard, and this information can be used in our planning.

The information developed at this early morning meeting frequently results in cars being placed and unloaded the same day, before free time

begins. There are many instances of such cars arriving, being unloaded, reloaded and shipped out the same day, before free time began on the inbound movement.

The section of the report showing cars in yard is generally divided between Cars for Overseas Storage and Cars for Domestic Storage. In addition to the date of shipment a second column shows date of arrival. This information also appears in the sections showing cars placed and cars unloaded. If a car arrived on the 4th and was not unloaded before the expiration of 24 hours this is starred and responsibility for delay shown—whether railroad or warehouse delay. Somebody must explain this.

A great advantage in showing both shipping date and arrival date is that we gather experience as to the time generally required enroute from many points of origin in every state in the Union. We have tabulated these figures from time to time, and by taking the average and making a slight addition we can establish a reasonable date of expectancy on more than 75 per cent of our inbound shipments. This information is of definite value in our pre-planning.

Instructions to Shippers

At this point I would like to mention something about our instructions to shippers. Every Government bill of lading sent to contractors is accompanied by a sheet of shipping instructions from my office. The shipper complies with whatever instruction is applicable. One, of the first importance, directs him to send a telegram when shipment is made, and this is the advance information mentioned that forms the basis of our morning Situation Report.

The shipper is also instructed to load cars to full visible or physical capacity. If that is not done, and there should be additional freight to move on the same order, we request information as to why the car was light loaded. We keep it before our shippers that car space, as well as car time, must not be wasted.

In connection with the telegraphic notice, I am informed that the New England Advisory Board has succeeded in getting this practice adopted by many commercial establishments, which may be one reason for the success they are reporting in freight car utilization.

(Continued on page 68)

* See DandW, March 1944, p. 30.

AIR CARGO EQUIPMENT. . . What the A

THERE has been a good deal of talk about what sort of equipment will be available for air cargo transportation and how it may affect the use of air by shippers after the war. Much progress has been made during the past few years in the design of airplane types suitable for cargo transportation so that the airlines can now obtain a good idea of what the manufacturers may have in mind, and the manufacturers can get the same from the airlines.

Because shippers are vitally inter-

believe that speed in the vicinity of 200 m.p.h. will be satisfactory for most schedules, but also are of the opinion that improvement in design will bring about economical operation above the 200 m.p.h. figure. With present equipment as a basis for opinion, however, it was believed that economy of operation would restrict average flight speeds to less than 200 m.p.h. Very few operators are willing to sacrifice economy for higher speeds.

Feeder type service and continental short-haul service were cited as in-

stances where speeds of less than 200 m.p.h. will be satisfactory. However, exceptions were taken to speeds at or below 200 m.p.h. for the continental short-haul type service to the extent of pointing out that same day service in some areas will be necessary in order to compete with overnight surface transportation. In such cases speed considerably in excess of 200 m.p.h. might be required because a shipper will not pay a premium rate for mere overnight delivery by air when train or motor service will give the same time service.

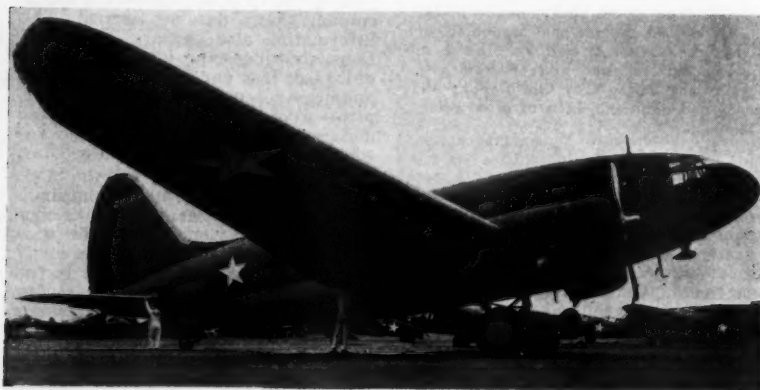
Continental long-haul service and inter-continental service will most assuredly require faster speeds. The time differential on west to east flights will necessitate higher speeds if overnight service is to be offered on the continental long-haul runs. On the inter-continental service high speed is not as essential from the standpoint of competing with surface transportation, but even here speeds in the neighborhood of 200 m.p.h. will be desirable to combat adverse winds and provide a reliable service.

Tonnage Factor

The number of tons that a given airplane will carry per hour is considered a more important criterion than speed per hour alone. When expressed in terms of ton-miles per hour and related to the cost of operation per hour at given flight speeds for a given design, a very important relationship of cargo to speed is established. Of course, cargo plane speed will be influenced largely by the type

AN OUTSTANDING PERFORMER . . . The Curtiss (C-46) Commando military transport type. Basic design for the Curtiss-Wright post-war cargo carrier powered with two 2,000 h.p. engines, with wingspan of 108 ft., and weighing 50,000 lb. when loaded. This plane's efficient operation over long flights with heavy cargo has made it one of the outstanding transport types developed during the present war.

Courtesy Curtiss-Wright Corp.



ested in what sort of equipment may be ready for their use soon after hostilities cease a survey was recently made among the airlines to determine their reaction to certain features proposed by aircraft manufacturers. At the same time the airlines were asked to suggest features which the manufacturers should consider. The results of this survey are summarized in this and a following article.

Element of Speed

Since speed is the principal advantage offered by air transportation over other forms it was deemed important to establish present day planning in regard to desired flight speeds for post-war air cargo transport. As the cost of flight operation, with present equipment, takes a decided upward turn with speeds of over 200 m.p.h., inquiry was made to determine if flight speeds of over 200 m.p.h. could be considered as of secondary importance. It was hoped thus to establish the limit beyond which economy of operation would outweigh the advantages of higher speed. Answers to this question were qualified in terms of range of operation and the type of service which was to be offered.

The majority of those responding

AIR CARGO STOWAGE TODAY . . . Here is an interior view, showing special cargo features of one of the "cargoliners" operated by United Airlines on a coast-to-coast all-cargo schedule. The Douglas DC-3 planes have been stripped of passenger furnishings and equipped with such special cargo features as plywood floors, plywood siding, steel screened windows and cargo bins. They carry three tons of cargo as compared with the average 1,400 lb. transported aboard a regular passenger-cargo plane.

Courtesy United Airlines



he Airlines Expect to Use . . .

(Part 1)

By JOHN H. FREDERICK

Air Cargo Editor

and JERRY W. MARTIN

*Research Assistant, School of Business
Administration, University of Texas*

of goods to be flown and the location of such goods and their ultimate destination, together with proper balance between dependability, load capacity, and range. Considering these factors, the airlines will use whatever speed affords the maximum economy.

The highest speed specified by any airline was 235 m.p.h. which is considered necessary to provide an overnight service from the West Coast to the East Coast. Unquestionably, the cargo plane design which holds other factors relatively fixed and at the same time affords a higher speed will be chosen over slower speed designs. In general, however, it can be stated that economy of operation will have a prime influence in placing air cargo flight speeds in the neighborhood of 200 m.p.h.

Utilization of Equipment

The ability to obtain maximum utilization of flight equipment depends upon a large number of factors, chief among which are the type of territory being served, the location of maintenance shops, efficiency in scheduling, and the type of equipment being used. Recent military demands have forced the airlines to utilize their equipment to the fullest possible ex-

tent. Schedules have been revamped with an eye to using each plane a maximum number of hours as against offering attractive schedules to passengers or shippers. In an effort to establish planning on equipment utilization, inquiry was made as to whether or not post-war cargo planes could be used approximately 4,000 hours annually.

The majority of the airlines were of the opinion that 4,000 hours annually was a minimum figure for cargo operation. Several were quite specific in stating that they will insist upon designs which will permit at least 4,000 hours annual operation. Opinions to the contrary held that it is not possible to arrange schedules so as to meet market needs and maintenance and routing requirements, and still achieve an annual average of 4,000 hours. It was pointed out that requirements for spare airplanes and the difficulties of scheduling short range operation so as to have the airplane at the proper place at the proper time for needed servicing will tend to bring down the average. However, 3,000 to 3,650 hours are regarded as reasonable figures by those not agreeing with the 4,000 hour figure. Of those agreeing that 4,000 hours and more can be achieved it was

EDITOR'S NOTE: This is the first part of a two-part article on air cargo equipment and what the airlines expect to use. It is based on research conducted by the authors plus personal interviews and correspondence with airline officials, airplane manufacturers and others.

Emphasis has been placed on what the airlines want because the authors believe that the manufacturers will provide what their customers want.

This article, consequently, is a composite of opinions, and will serve to give shippers an idea of the type of equipment likely to be available for use shortly after the war.

The second part will be published in the July issue.

pointed out that 11 hours a day is a very reasonable average and that in order to obtain efficiency and low operating cost it is mandatory that this figure be met.

If this is to be done manufacturers

THE SHAPE OF THINGS TO COME . . . Today's commercial transportation and tomorrow's pose side by side. In the background is a Douglas DC-3; dominating the picture is a giant Lockheed Constellation. Designed originally as a luxurious passenger transport for Transcontinental & Western Air, Inc., the Constellation is going into military service. The 80,000 lb. gross weight Constellation has a wing-

spread of 123 ft. compared to a DC-3 spread of 95 ft., a length of 95 ft. as compared to 64½ ft. for the DC-3. Its horsepower totals 8,800 compared to the DC-3's 2,400. On April 17 last, this new giant of the air crossed the continent in the record-breaking time of 6 hr., 58 min., at an average speed of 355 m.p.h.

Courtesy Transcontinental & Western Air, Inc.



will have to give careful consideration to the build-up of the design of air cargo planes from the service and maintenance standpoint so as to insure that the airplane will be out of operation the minimum amount of time for service or overhaul.

Assembly-Line Maintenance

Emphasis was also placed upon the consideration that a well-trained and experienced maintenance organization should experience no difficulty in servicing airplanes so as to provide total flight schedules of 4,000 hours per plane. One airline stated that it plans to set up assembly-line service and maintenance methods. Under this plan parts needing repair and overhaul will be replaced by other units kept on hand for this purpose. Hydraulic units, wings, and engines will be replaced in groups, thus permitting the ironing out of peak periods in maintenance and a spreading out of activity thereby reducing costs and alleviating the general maintenance problem.

Also mentioned was the consideration that obsolescence has occasioned replacement of equipment rather than actual depreciation through use. One carrier pointed out that their Douglas DC-2 airplanes were in excellent condition at the time they were requisitioned by the army, and that the trimotored Ford is still being used in localities where obsolescence is not a competitive factor. Not mentioned by the airlines but certainly of importance is the consideration that cargo plane designs may not be as subject to competitive obsolescence as planes used for passenger transportation. Shippers will look to dependability of schedules and not to the date of the

design of the carrier. Although superior airplanes with improved economy and efficiency factors will bring about replacement, present limitations on equipment apparently have revised upward airline estimates on their ability to utilize more fully their flight equipment. Planning for maximum equipment utilization will probably carry over into post-war operations when addition of equipment is no longer restricted.

Distance Between Stops

Airlines believe that they will probably find it desirable to divide cargo routes into feeder, continental short-haul, continental long-haul, and intercontinental routes. The desirable distance between stops will then depend on the type of route to be flown.

The feeder type service stops are specified as probably being 50, 75, and 100 miles apart. This type of operation is regarded as only a part of an integrated system which would be dependent upon other types of services for its business. It is believed that very little cargo will move between any two points less than 200 miles apart as the saving in time as compared to ground transportation will not warrant the extra cost of air transportation. Small planes will pick up long-distance cargo from outlying points which in turn will be fed into larger planes with faster schedules and less frequent stops.

Continental short-haul service is regarded as probably ranging from 200 to 500 miles with the needs of particular airline systems perhaps requiring some stops at points only 100 miles apart.

The continental long-haul service is visualized as a sort of deluxe service

between major centers with stops ranging from 300 to 1,000 miles in length. Speed will be of prime consideration in this service with stops being kept at the minimum necessary to maintain a satisfactory range-payload ratio. The deluxe service will probably be paralleled by a slightly slower service making stops at least every 500 miles so as to maintain as high a payload as possible.

Intercontinental service is believed to require ranges up to 2,000 miles with foreign operations intended primarily to connect the domestic services with similar collecting and distributing services in other countries.

With present day equipment the most desirable range for stops is regarded as being 250 miles. The territory served and the type of services to be offered are the determining factors in establishing the most desirable distances between stops.

Cargo-Passenger Service

Whether or not cargo service will be completely divorced from passenger service in post-war activity is still unsettled. Two airlines contend that we shall have solid cargo airplanes on which there will be no accommodations for passengers. Others believe that the passenger service will be a means of developing cargo routes and under such programs combination cargo and passenger planes will be needed. Very few were able to conceive of a service whereby the passenger will be secondary to cargo and carried at a rate less than regular passenger service.

Differences between Civil Aeronautics Administration requirements on cargo and passenger aircraft is considered as a factor which will tend to separate cargo from passenger service. Feeder type service using small passenger-cargo planes can be provided with reasonably comfortable passenger accommodations, to be either installed or removed as passenger or cargo volume demands.

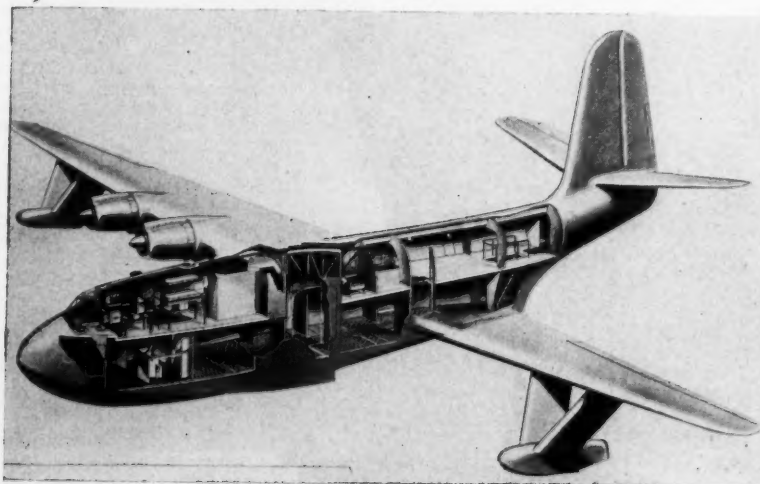
Convertible Planes

An interesting possibility is that a given aircraft can be used primarily as a passenger carrier on one direction of a flight and be converted to serve as a cargo carrier with only limited passenger service on the return trip. The idea here is to move cargo during the hours when passenger traffic is light. This possibility has certain economic advantages which will be carefully considered when a decision is made as to the particular design to be used for a given schedule. Speed of conversion and the weight of the removable sections together with storage, routing and availability difficulties in the handling of the removable portions will be important considerations in determining the extent of application that the conversion feature will have.

The prevailing opinion is to rely upon presently-developed passenger traffic to introduce cargo traffic with a gradual extension of the cargo service over a period of several years. There will be no provision for far-differential passengers in planes carrying cargo and the general plan will

(Continued on page 72)

A 70-Ton Cargo Carrier



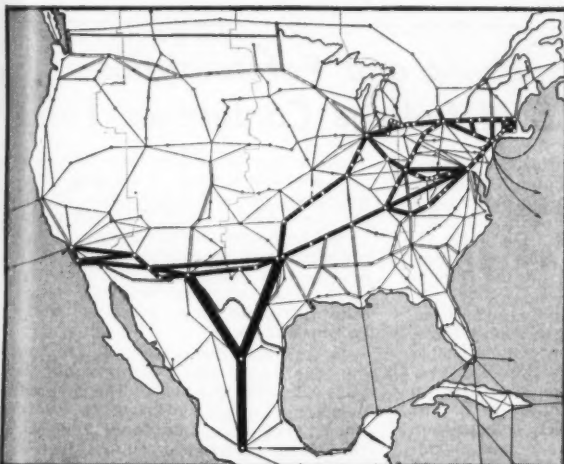
Now being built for the Naval Air Transport Service as a combination cargo carrier, troop transport and hospital ship, the 70-ton Martin JRM-1 Mars, largest operating airplane in the world, also holds many interesting possibilities for the post-war commercial operator. Three different versions have been designed for post-war use: for passenger service; for over-ocean air cargo, and for combined cargo, passenger and airmail transport. The accompanying illustration shows the cargo design. The three versions are identical as far as external structure is concerned, but vary in interior appointments.

To Ship to Mexico

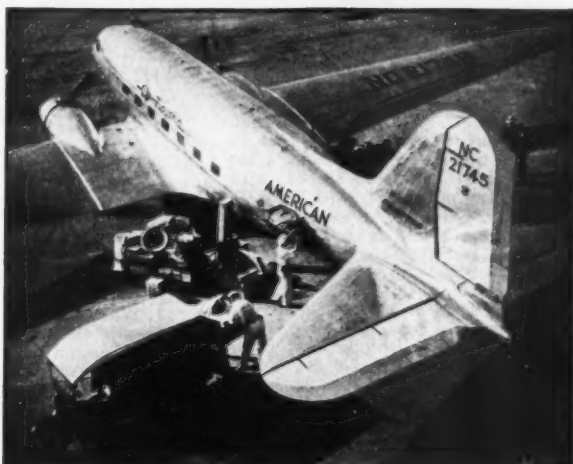
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D and W, June, 1944—25



Materially Lower Operating Costs Held Feasible 5 Years After War

Reduction of airline operation costs to 15c. per ton mile after the war, as compared with an average of 25c. per ton today, and the possibility of 5c. per ton mile cost within five years after the war's end were discussed recently at Los Angeles by L. Welch Pogue, chairman, Civil Aeronautics Board.

Mr. Pogue declared that he found general confidence among west coast airline leaders that operation costs could be materially reduced after the war, "without radical changes."

He declared he expects air express rates to drop to 35c. after the war, and probably as low as 15c. as the volume of traffic increases. He stated, further, that a cost of 5c. per mile would be possible within five years after the war through the use of comparatively small planes and frequent schedules. He stressed the importance of continuing vigorous development work to promote air transport business and assure the United States a leading place in post-war aviation.

The right of free air transport should be upheld by agreement after the war, the CAB head stated, with each country controlling the right to land and discharge passengers. If there is no transit right, he pointed out, large countries could "box off" smaller ones by refusing passage to planes.

Mr. Pogue disclosed that 600 airline applications are now on file before the CAB. If all were granted, sky route distances would reach 500,000 miles, he explained, as compared with the 230,000 miles now covered by railroads. Withdrawal of some of the applications and rejection of others, Pogue stated, will probably reduce the total distance to approximately 200,000 air mile route distance, as compared with the present total of 45,000 miles, of which 10,000 miles are inoperative. (Herr.)

Panagra Increases Air Cargo Facilities

One of the three new Douglas DC-3A airplanes recently allotted to Pan American-Grace Airways (Panagra) has been converted for all-cargo operations over the company's trunk line between Balboa in the Panama Canal Zone and Buenos Aires in Argentina.

Stripped of its soundproofing and passenger accommodations, the new air freighter can carry a minimum of 5,600 lb. (2700 kilos) of payload. As a result of research with the DC-2's on the cargo run, special bins have been installed in the new craft for the first time, and fixed nets of rope have been devised to insure sta-

bility in flight and to facilitate loading, unloading and sorting of cargo. Another innovation is a special compartment about the size of a large safe, which has been built into the cockpit for the storage of valuable shipments.

10-Ton Cargo Planes Predicted by 1950

Planes carrying 10 tons of cargo will become commonplace by 1950, Godfrey F. Morgan, Douglas Aircraft Co., declared in Pittsburgh recently. Reduction in time and cost, and increased volume of traffic in long distance flying will eliminate land, sea, air competition, said Mr. Morgan.

Air Cargo Problems and Potentialities Feature A & M College Conference Talks

Problems and potentialities of air cargo featured discussions last month at the third wartime aviation planning conference at A. & M. College, College Station, Texas. Dr. John H. Frederick, air cargo editor of *D and W*, led the discussions on the following topics:

1. **Who Will Use Air Cargo?** Considerable discussion on this subject revolved around the recent report issued by Wayne University, Detroit, concerning the air cargo potential in fresh fruits and vegetables. It was brought out that nearly every commodity is subject to air transportation, provided the rate is low enough or the service is considered worth paying a higher rate for by shippers and consignees.

M. G. Lickteig, Air Express Division, Railway Express Agency, San Francisco, made the remark that any article of merchandise selling for at least \$15 per unit could stand air transportation at the rate of 14c per ton mile, which would move most rail express into the air. He also felt that wearing apparel, shoes, hats, furs, and other style merchandise would displace machinery and parts as the leading group of commodities to be carried by air after the war.

2. **The Ground Handling of Air Cargo.** It was the consensus that pick-up and delivery service will have to be rendered by the airlines through some agency such as Railway Express, or in some other way, and that there will be no airport to airport rate with an allowance for pick-up and delivery by shipper or receiver

TWA Buys Interest In Hawaiian Airlines

Acquisition of a 20 per cent interest in Hawaiian Airlines, Ltd., by Transcontinental & Western Air, Inc., for a consideration of over \$300,000 was announced jointly by Jack Frye, president, TWA, and Stanley C. Kennedy, president, Hawaiian Airlines, Ltd. The Hawaiian company, which furnishes passenger, mail and freight service in the Hawaiian Islands, has an application pending before the Civil Aeronautics Board for a route between Honolulu and the United States mainland.

Simultaneously, Mr. Frye announced that TWA is withdrawing its pending application for a certificated route from California to Hawaii.

Hawaiian Airlines, like TACA airlines, in South and Central America, in which TWA recently bought a 38 1/2 per cent interest, is a major air freight and express carrier. The Civil Aeronautics Journal reports that in January, Hawaiian Airlines, Ltd., ranked fourth among America's domestic airlines in the carriage of express and air freight, having a total poundage for the month of 514,775 lb. The airline is dependent on airmail payments for less than one per cent of its total operating revenues, it is stated.

such as has been proposed by some.

It was the feeling of those present that it would be a considerable length of time before separate airplanes would be needed for air cargo. Much air cargo will be carried on the same planes with passengers and mail, and to duplicate various facilities on another airplane or at airports, would be uneconomic.

It was also the consensus of opinion that this equipment would be owned by the airlines at the airports perhaps through a pool where several lines serve the same town and that the carriers were very much open to suggestions from producers of such equipment.

3. **Air Cargo Classification.** This topic brought out some very strong opinion that the classification of air cargo should be kept as simple as possible and that the present Block Rate structure of Railway Express was working out very well. It was thought that it would be a mistake to adopt the classification of the motor carriers even though through the use of some type of formula it could be adapted to air cargo. In other words, the airlines will have to work out their own classification.

4. **The Feeder Line and Air Cargo.** James G. Ray, Southwest Airways Co., pointed out that the feeder line people expect to disperse the same type of cargo as now travels by air express from the terminal points to the towns now served, but that they do not anticipate handling a similar

(Continued on page 78)



Thanks to Air Commerce . . . **COSTUME JEWELRY FROM THE FAR CORNERS OF THE WORLD**

Costume jewelry, art objects and novelties that make the shops and bazaars of European and Asiatic nations brilliant, will gleam on America's counters after the war. Air transport will carry our buyers to the far corners of the globe. Air commerce will bring their purchases home in record time to set feminine hearts aflutter.

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Henrique Rebl
Director
Venezuela Navigation Co.

S. S. Official Calls Central America "Land of Outstanding Opportunities"

Pointing out that history has shown that after world upheavals small nations frequently have had tremendous influence on the course of international relations, Roland S. Stevens, vice-president, Transmarine Navigation Corp., in a recent address before the World Trade Clinic at Los Angeles declared that in the post-war period the republics of Central America may present an outstanding opportunity for trade with the United States.

Mr. Stevens asserted that forces are already in motion that foreshadow the importance of the Middle America area to the future of the United States, particularly the western part of this country, which, if continued, he said, will make Middle America "a land of outstanding opportunity for United States exporters and importers."

Before the war, Mr. Stevens said, the United States depended almost entirely on the Far and Middle East for tropical supplies. In 1938, for example, he cited that this country imported 94 per cent of all essential crops from those regions and only about 6 per cent from all Middle America.

With the continuance of the war, Middle America, according to the shipping firm official, has reached a definite and important place in supplying these vital materials to the United States. Great amounts of money have been expended and extensive projects undertaken in Central America to develop the products needed by the United States which has created an expanded economy throughout all Middle America.

"An important factor that must always be remembered," Mr. Stevens said, "is the change in economy of these countries brought about by the diversification of products now being cultivated. This has established a potential and substantial increase in our trade opportunities and has also made a stronger Middle America by removing the undesirable limitation of a two-crop economy and changing it to a multiple-crop economy."

The United States war agencies have fostered the planting in Middle America of many different tropical crops in co-operation with the United Fruit Co. and other firms, Mr. Stevens said, mentioning such crops as quinine, grass oils, hemp, abaca, reteneone, spice, etc.

"The development, expansion and establishment of tropical crops in Middle America has several definite advantages," Mr. Stevens said, citing the following factors favorable to the Central American countries:

Highway Congress Meets In Peru, July 15-25

Organization of a permanent administrative association to carry out its decisions will be considered at the Fifth Pan American Highway Congress, scheduled to be held in Lima, Peru, from July 15 to July 25, according to the agenda made public at Lima.

The agenda includes such varied subjects as transit, legislation, administration, propaganda and international affairs and post-war problems. Construction of underground fuel tanks along the Pan American Highway will be considered. The Congress also will consider the necessity of altering highway pavement and bridge structure to facilitate heavy cargo and military traffic.

The Pan American Highway in Latin America is part of the All-American Highway, stretching 15,494 miles from Fairbanks, Alaska, to Buenos Aires, Argentina. The section of the Pan American Highway between the northern border of Mexico and the Panama Canal Zone is known as the Inter-American Highway. The section of the All-American Highway traversing Canada and Alaska is known as the Alcan Highway.

"1. A safe, accessible supply of essential materials within easy trans-
(Continued on page 82)

Approved Symbols Urged for Exports

Exporters are being urged by the Office of War Information to use on all shipments sent abroad an approved identification symbol, in the form of a gummed label or decalcomania, bearing the words "Imported from the United States of America." This labeling program, which is directed by OWI's Overseas Branch, covers two distinct operations: one for lend-lease and government-owned supplies; the other for private commercial exports.

Labels for lend-lease and government shipments may include the American flag in their design; but for private export trade this is contrary to flag etiquette, so only the flag motif is employed. While a standard design has been drafted by OWI, the rules announced by the Overseas branch permit any shape considered most practical to fit a specific area on the package. It can either be a separate label or worked in as a part of the layout of the product label and the manufacturer's trade mark can be incorporated within the label itself.

OWI will supply art work without charge, including lettering in the language of the consignee, the official announcement states. But OWI does not handle the purchase of labels, leaving that for the user to arrange with his lithographer or printer. Use of the labels is voluntary, OWI emphasizes, the purpose of its campaign being merely to encourage use of an approved basic design.

Pan-American Capital Pool Suggested For Post-War Latin Industrialization

To assure the post-war purchasing power of the Western Hemisphere it will be necessary to industrialize Latin America considerably through the pooling of foreign and native capital, according to delegates who attended the Inter-American Development Commission Conference last month in New York.

Nelson D. Rockefeller, Coordinator of Inter-American Affairs, was chairman of the conference, which was attended by delegates from Latin-American republics as well as the United States.

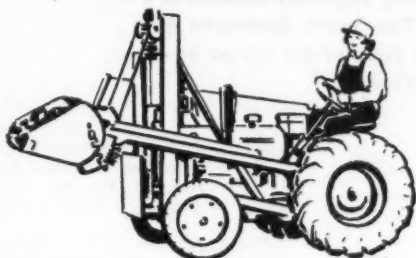
Dr. Valentim F. Boucas, Brazilian delegate, declared that the United States will need near-by markets after the war and pointed out that Latin America, with its 130,000,000 inhabitants, is a potential market of great size. Unless, however, industrialization of the continent is made effective, the purchasing power of the low-income workers will remain small. There is an urgent need in

his country, he added, for North American technicians and investors.

Hernán Videla, Chilean Senator and president of the National Mining Society, urged more equitable exchange rates between this country and those of Latin America, explaining that such rates are essential in preserving economic stability. Raúl Gurdian, Costa Rican delegate and former Minister of Foreign Affairs and Finance, lauded this country's system of stabilizing price levels and said that his country plans many modifications and improvements of its method.

R. R. Ball, director of the Central Bank of Venezuela, declared that the war has taught his country to be more self-sufficient and has brought to it the realization that its own industries are important and deserve to be stimulated. Problems facing his country, he added, are limited ocean transportation and the difficulties of obtaining building materials here.

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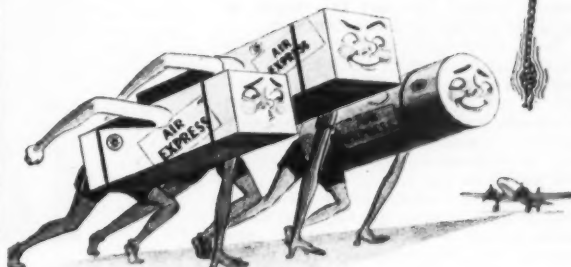
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Air Cargo in Latin America

The transition in Latin America from ox cart to airplane is being made in one jump. In the Amazon Valley they say, 'one minute in a plane is equal to an hour on the ground.' The South American airlines carry about six and one-half as many tons of air cargo as do the lines in the United States.

THE American republics are on the threshold of their greatest evolution, the evolution in transportation brought about by the tremendous advances within the last few years in airplane design and construction.

Since the republics of America have enjoyed independence they have faced many problems, one of the most serious of which was the great lack of adequate transportation and communication between neighboring countries and even between different parts of the same country.

The airplane is the answer to these and similar problems for the plane makes short work of mountains and forests and it crosses deserts, rivers and pathless jungles with equal facility. The airplane is now breaking down isolation and sectionalism and is giving the peoples of America a new unity and drawing them into a circle of common interest.

From Ox Cart to Airplane

While transportation in North America progressed in slow stages from pack horse to covered wagon, canal boat, railroad and auto to airplane, the transition in South America from ox cart to airplane is being made in one jump. The inhabitants of many communities in tropical America who have never seen a railroad train are quite familiar with the comings and goings of the plane.

The changes which have thus far taken place are as nothing compared with what one may expect when war-caused shortages of planes and fuel have been overcome.

It has been said that the airplane may do for the American republics



By **J. STANTON ROBBINS**
*Transportation Section
Office Coordinator Inter-American Affairs*

• • •

what Bolivar and other liberators dreamed of accomplishing, but were prevented from doing by lack of communications, namely the establishment of closer relations between countries separated almost solely by vast trackless distances.

Difficulties of Travel

Until quite recently it took longer to travel by land from Managua, Nicaragua, to San Jose, Costa Rica, two capitals which are only 200 miles apart, than it did to travel by steamer from Costa Rica to New York City.

Only five years ago one could travel

from Lima, Peru, to Paris in less time and in greater comfort than one could go from Lima to the city of Iquitos, which is only 745 miles away in an air line.

The hardships of the overland trail between Lima and Iquitos were such that many preferred to get there by ocean steamer, sailing first from Lima to the Panama Canal, then around the northern end of South America, southward to Belem at the mouth of the Amazon and finally 2,300 miles up the Amazon to Iquitos, a trip of some 8,000 miles requiring at least 30 days. But now that is all changed. Today, planes fly between Lima and Iquitos in a few hours.

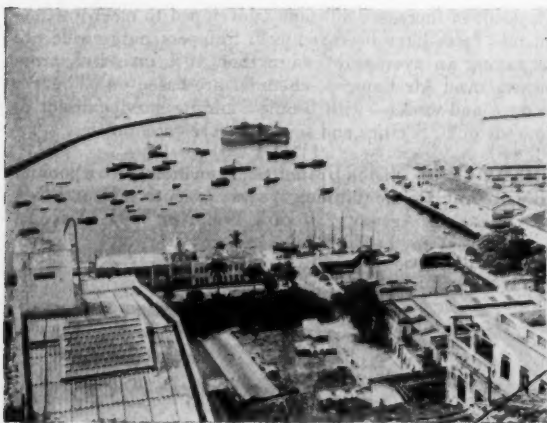
Shipping Costs

With communication problems like this, it is easy to see why neighbors know little of one other and why large areas remain completely isolated, out of touch with the world and without means of marketing their produce.

In some of the mountain republics, it is not unusual for the cost of inland transportation to double the price of merchandise sent from abroad. Even before the present war shipping handling and insurance charges on a ton of hardware shipped from New York to Bogota, Colombia, were frequently greater than the initial cost of the merchandise.

Railroads and Highways

It is easy to say, "Why don't they build railroads?" but anyone who has traveled over the Central Railroad of Peru, or over the 11,000-foot Quinde Pass in Columbia, will answer that.



LEFT: View of the colorful harbor of Bahia, or Salvador, situated on the North Atlantic coast of Brazil. **RIGHT:** Unusual photographic view of the city of Rio de Janeiro, Brazil. The famous Sugar Loaf mountain may be seen in the background.

Peru's Central Railway climbs almost straight up and, within the first 85 miles of its length, reaches an altitude of nearly 16,000 ft., or three miles above sea level.

Peru could never have built this costly railroad were it not for the copper mines at the top which justified its construction.

South America is more than twice the size of the United States but in each of its republics, with the possible exception of Argentina and Uruguay, nature has imposed serious physical handicaps to travel.

Even Argentina, which has a boundary of over 2,000 miles with its neighbor Chile, has no through railroad connection with this neighbor at present. In 1934 a long section of the Transandean Railroad was washed out, on the Argentine side of the pass, and has not been rebuilt; a highway is now used to bridge the gap.

This railroad and three rather different highways now cross the Andes connecting Chile with Argentina. These highways cross passes, ranging from 10,000 to 12,500 ft. above sea level, and are blocked with snow in winter. Only in the extreme southern part of the Andes are the passes lower.

10 Min. in Plane—Day's Trip

We in the United States, if we would travel, have the choice between a 60-mile an hour train and a 200-mile an hour plane, 18 hours from Chicago to New York by train or 4½ hours by plane, but down in the Ama-

zon Valley there is no such choice. There they say, "One minute in a plane is equal to one hour on the ground or ten minutes in a plane is equal to a day's journey." And in many cases this is actually an understatement for, in the rainy season, an ox cart does well to make 15 miles a day. Further, the winding twisting nature of the trails in mountains and forests adds greatly to the total mileage.

The distance between Sucre and Camira in Bolivia, for example, is

Arresting Facts

AS the seasons in Argentina are the reverse of those in the United States, seed men in North America now save a full year by harvesting a crop of seed in September, shipping it to the Argentine by plane, where September is spring, plant it and harvest a new crop of seed in February, which is flown back to the United States, reaching here in time for early spring planting.

EDWARD WARNER, U. S. Civil Aeronautic Board, says the average plane in the Transatlantic ferry service is now carrying 12,000 lb., while 3,000 tons of cargo a week is now crossing the Atlantic by plane at an average cost of 20c. per ton mile.

300 miles by highway but only 135 miles by plane. This particular trip takes only 45 minutes by plane and



All photos courtesy CIAA.

To move chicle from the forest stations to the gathering station used to take six days by pack mules. Now it takes 30 minutes by plane.

anywhere from six to 12 days by road, depending on the weather.

Landing Fields

Engineers say that it will take five years to build an adequate, 276-mile highway between Cochabamba and Santa Cruz in Bolivia and the cost will be in the neighborhood of \$7,000,000. It takes only a few months, however, to level off two or three landing fields and the cost is nominal. Planes now make this trip with local stops in three hours.

According to Colombian officials, a first class landing field with the necessary buildings and installations can be built for the cost of two miles of ordinary, hard surfaced highway. In these lands of vast distances two miles of highway will get you no place at all. For this reason, a Colombian engineer has said it is better to dot the hinterland of Colombia with 25 or 30 strategically placed landing fields than it is to try to connect these communities with the capital with roads. Roads will be built eventually, of course, but he thinks landing fields should come first.

Depend on Planes

Many mining and rubber gathering enterprises of South and Central America could not operate without planes. The Aramayo Mines in eastern Bolivia, for example, depend on planes for transportation. One can hop from the mine to La Paz in 30 minutes but the trip by trail takes 15 days. These mines, says the manager, could not operate without the planes as the cost of building an adequate road would be more than the mines are worth.

Traveling through Ecuador from Loja to Cuenca takes five days by trail but only 45 minutes by plane. The distance in an air line is 90 miles and the cost of the plane ticket is less than the mule hire for the overland route.

Air Cargo

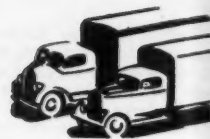
One can fly from Buenos Aires to Tierra del Fuego in about 15 hours but the same trip by land and by water takes several weeks. It is not surprising, therefore, to learn that South American air lines carried in 1942 six and one-half times as many tons of cargo as did the lines of the United States.

In Central America, TACA lines
(Continued on page 84)



Aerovias of Guatemala landing a load of supplies at a jungle airport and picking up a load of chicle.

Motor Cargo ...



Simplification of Class Rates Urged —Present System Held Unnecessary

Simplification of motor carrier class rates to meet motor carrier needs is one of the most important problems confronting the motor transportation industry today, in the opinion of George C. Cassell, Chicago, traffic manager of Motor Express Inc. of Indiana. Many carriers, Mr. Cassell says, feel that the present classification is wholly unadaptable to motor carrier rates. Addressing the Junior Traffic Club of Chicago recently, he noted evidence that attempts are being made here and there to remedy the situation by changes in classification procedure now used by motor carriers.

Illustrating his idea of the need for simplification, Mr. Cassell referred to one of the tariffs of Central States Motor Freight Bureau, which he said, employs 65 different classes. In some instances, he pointed out, the spread of rates between different classes is as low as one cent.

"It is felt," he said, "that motor carriers do not need that elaborate statement of class rates and could get along possibly with seven or eight less-truck-load classes and an equal number of truck-load classes, without changing very materially the rates that the public will pay for motor truck transportation."

When motor carriers adopted the rail basis of class rates, Mr. Cassell said, they obviously adopted the distances upon which those rates are made. This, he declared, further bears out the suggestion that class rates and class rate tariffs need to be considered with a view to putting them on a motor carrier basis.

As an example, he cited the fact that between Milwaukee, Wis., and Muskegon, Mich., both rail and motor carrier rates, are computed on a distance of 89 miles, whereas the actual distance trucks travel to handle freight between these two points is 267 miles, or exactly three times the distance upon which the rates are made.

From Milwaukee to Port Huron, Mich., the actual highway distance over which trucks must travel is 516 miles, he said, whereas the distance over which rail and motor carriers base their rates is 336 miles. Many similar instances, he asserted, are found in the present motor carrier tariffs.

Wisconsin carriers, Mr. Cassell said, have made many notable experiments in tariff simplification, which have not affected materially the rates charged the public.

"Before June, 1942," he said, "to obtain the rate between Milwaukee and I. F. A. and C. F. A. points, it required two class tariffs, each having

Detroit Group Forms New Claim Assn.

Truckers, shippers and others interested in shipping in the Detroit area have formed the Detroit Freight Claim Assn. T. W. O'Neill, George F. Alger & Co., is chairman.

The association, it is announced, seeks to reduce claims "through co-operative analysis of causes and suggestions for preventive measures; to foster and promote good will among its members; to co-operate with insurance companies; to create harmony between shipper, carrier and consignee; to foster co-operation between operating and claim departments; and to facilitate the exchange of stray freight."

approximately 900 pages, or a total of 1,800 pages of tariff matter. In these tariffs were published the usual 60 to 70 different classes.

"In June, 1942, the Wisconsin carriers were successful in consolidating all rates formerly named in the 1,800 pages into one small tariff of only 295 pages. Their table of class rates, instead of taking up some 48 pages of printed matter, merely required three pages. They published only three classes instead of the previous large number.

"This tariff has been in effect now almost two years and in discussions with Wisconsin carriers I understand that shippers appear to be fairly satisfied with the rates resulting from this tariff. If these simplified smaller tariffs could be successful in this ex-

periment, it is obvious that they would be successful in application over central territory.

"My personal view is that considerable improvement can and will be made in motor carrier rate structures that will result in simplified statements of rates and in a level of rates that will assure the public of the most economical transportation service. I also feel certain in that in the very near future serious consideration will be given to a classification that will properly reflect the needs of motor carriers."

This, he pointed out, brings up the question as to whether motor truck rates will be competitive to rail rates.

While serious thought will be given to the competitive situation, he stated that unless labor drastically changes

(Continued on page 35)

New York Merger Of Trucking Groups

The Motor Carrier Assn. of New York is now established and functioning with headquarters in New York City.

It comprises a merger of the Merchant Truckmen's Bureau of New York, an association of local truckmen composed of truck operators doing business principally within the Metropolitan area of New York City, and the Highway Transport Assn. founded for the purpose of protecting the local interests of over-the-road motor carriers in the New York Metropolitan area.

Arthur G. McKeever, formerly managing director, Merchant Truckmen's Bureau, has been chosen president of the new association and Jos. M. Adelizzi will be its managing director, in which capacity he has served the Highway Transport Assn. for many years.

19% of Trucks 10 Years Old; 8% Over 15 —42% of Nation's Service Stations Shut

With approximately one in every six civilian truck requests being approved, the truck picture in the United States has changed completely in the past two years since rationing began in March, 1942, according to C. T. Ruhf, president, Mack Trucks, Inc. To date, he stated recently, a backlog of 1,250,000 potential truck sales have accumulated and the total is growing.

The cumulative effect of overwork and lack of proper maintenance, which is hastening trucks to the graveyard when they ordinarily would be good for another four or five years, largely accounts for the abnormal potential of 1,250,000 when compared to a normal two-year total of 1,000,000 truck sales, Mr. Ruhf said.

"At present 19 per cent of the trucks on the road are at least 10 years old, and a minimum of eight per cent are more than 15 years old. Most of these older vehicles would be off the highways in normal times, but the present lack of equipment for civilian use keeps them in service long after they have gone beyond the stage of economical repair."

The truck situation has been further aggravated by the shutting down of 42 per cent of the nation's service stations, and the depletion of manpower from the maintenance departments of truck dealers, Mr. Ruhf declared. As time goes on it is becoming increasingly harder to "keep 'em rolling" in accordance with government pleas.

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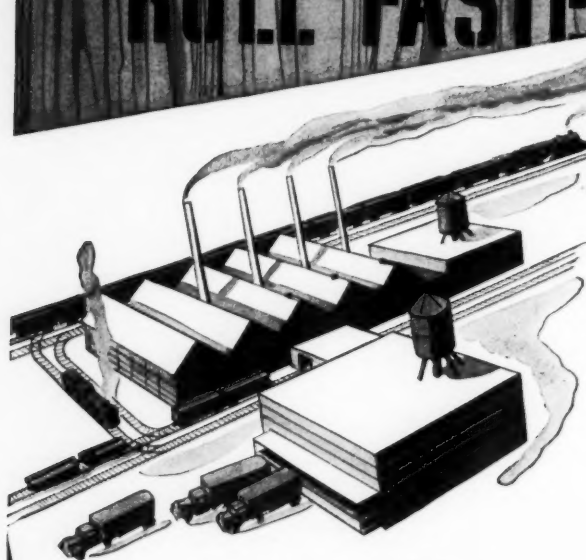
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DISTRIBUTORS IN PRINCIPAL CITIES

Rate Simplification Urged in Chicago

(Continued from page 32)

its present labor contracts, "there appears to be little likelihood that motor carriers will be able to be competitive on rate structures.

"Motor carriers will, however, still be in position to render a more flexible service that will be superior to that of the rail carrier for many years to come," he said. "In order to answer that question you would have to know what the demands of the labor organizations are likely to be on the trucking industry; whether they would be the same as now, or reduced or higher. Wages ordinarily represent in excess of 50 per cent of expendable dollars and that particular portion of our outlay will determine whether or not we will be in position to meet competitive rail rates. It is also probable that after the war there will be numerous consolidations and improved operating conditions that could enable motor carriers to offer lower minimum rates than at present."

He suggested that truckers give some thought to the possibility of developing public opinion to have the various state legislatures adjust state weight and length laws so that a truck or trailer could legally haul single shipments weighing possibly 40,000 lb. with a single power unit.

This, he said, could be done without injury to highways by use of dual axles or of a four-wheeled trailer attached to a semi-trailer. To some

Revised Motor Carrier Tariff Schedules Are Needed, Wisconsin Official States

Of importance to the shipping public of Wisconsin are discussions in business and official state circles about revisions in methods of rate making and route certification for common motor carriers of property.

Urged by ODT to conserve tires and equipment, and impelled by competitive self interest to economize on their lines, truckers have filed an increasing number of "convenience route" applications with the Wisconsin Public Service Commission, for shorter and simplified lines than their original certified routes.

Discussions of the problems of "convenience routes," recently induced Commissioner W. F. Whitney to express the opinion that there is urgent need for a general readjustment of motor freight rates in Wisconsin "upon the basis of uniform charges determined in accordance with the shortest route available for

the transportation service involved."

Observing that all "convenience route" applications received by the commission are caused by disparity in tariffs, Mr. Whitney recalled that under existing rate prescriptions the state determines charges according to the mileage of the carriers via their shortest certificated route.

Mr. Whitney proposed a tariff schedule based on air-line distance between points, regardless of route traveled, or computation according to mileage on public highways or rail-ways between specified points.

Such revision of rate making principles would "establish the routes of common motor carriers upon a more logical basis and their service upon a more efficient and economical foundation," to the end that "the shipping public would immediately be benefited," the commissioner stated. (WTNB)

extent this is being done, he said, although the practice is not general because the majority of the states have prohibited this type of equipment. (Slawson)

Trucking Firm Loses Appeal on ICC Ruling

The Supreme Court recently upheld by 8 to 1 an Interstate Commerce

commission decision that a company which controls a motor trucking firm must join in an application when the trucker asks ICC authority to purchase another motor transport concern.

The decision specifically concerned Refiners Transport & Terminal Corp., Wilmington, Del., and Detroit, seeking to acquire Marshall Transport Co., with terminal at Glen Burnie, Md.

When George Gerstenslager first went to work in the smith shop of the carriage works that later became the Gerstenslager Company metal parts were hammered out by hand. Today giant presses do in five minutes what then would have taken days of pounding.

Right now these big machines are turning out war material to back the attack. Not only that, but the men who feed and operate these machines are buying war bonds. Gerstenslager workers are supporting the war effort 100 per cent.

Our war production naturally limits the work we can do for our civilian customers—but if you need a new van or a reconditioning job on an old one, let us know. We may be able to help you.

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"blacksmith"
BACKS
THE ATTACK**



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Established 1860

Wooster, Ohio

Federal Law to Unify State Regulations Reported Gaining Stronger Support

The Council of State Governments has been urged by several trade and automotive associations to seek from Congress legislation that would provide uniformity of truck regulations among the states in the post-war period. The council has been told that the "state barriers" are likely to occur again after the war period, inasmuch as many states have passed no uniformity regulation on lengths and weights of trucks but are operating on a war time "let 'em go through" basis.

Thomas J. Miley, secretary Commerce and Industry Assn. of New York, recently pointed out to the Council of State Governments that prior to 1930 great industrial and trade areas were developed in the country but that during the '30s depression helped cause state trade barriers and other regulations opposed to the free flow of traffic and business.

Mr. Miley asserted it "is unlikely that trade barriers will be removed without congressional action, because it has been shown that state legislatures are tied up to special interests and at best usually do nothing."

The National Highway Users Conference also is taking a keen interest in post-war legislation seeking to remove barriers such as are imposed in Kentucky and some other states. This group and other automotive groups accomplished quite a bit in

such states as Wisconsin in establishing reciprocal agreements and removing restrictions on highway traffic flow, during the "legislative year" of 1943, but were completely defeated in Kentucky this Spring.

Board of directors of the Fort Wayne (Ind.) Chamber of Commerce has adopted a resolution requesting that the federal government prescribe minimum standards for size and weight limitations applicable to commercial vehicles operating on interstate highways. The Chamber transportation committee recommended the resolution as an aid to national defense and to permit the free flow of interstate commerce. (Kline)

Cons. Freightways Has 15th Anniversary

Consolidated Freightways is celebrating its 15th anniversary. In 1929, Consolidated Freightways equipment consisted of 41 trucks and trailers, eight "assorted" terminals, and 968 miles of route.

Today Consolidated Freightways is said to be the largest motor carrier in the West, and the longest, in point of routes, in the world, 11,681 miles. The company maintains 67 terminals from the coast to Chicago, at which are based 1,500 employees. It operates 600 units of rolling stock.

ODT Exempts Trucks Specially Designed

Small and specially designed motor trucks operating in over-the-road service are exempted from orders of the Office of Defense Transportation requiring registration of empty or partially loaded trucks, under general permits announced by the ODT.

The permits (General Permits ODT 3, Revised 5A, and ODT 17-14A) extend the relief formerly provided by similar permits under the Joint Information Office program, which was replaced by the new Traffic and Vehicle Registration program, the ODT explained.

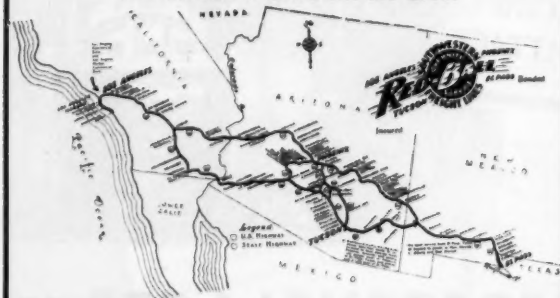
The exemption from the registration provisions was granted on the condition that such vehicles be loaded to capacity while operated over a considerable portion of the outbound or inbound route traveled in the over-the-road operation involved, the ODT said. The carriers are required to use "due diligence" in maintaining capacity loads.

"Small and specially designed trucks" are defined by the ODT as those which can be utilized only for the transportation for which they are especially designed and not for transportation generally, or those whose primary carrying capacity is occupied by built-in loading racks, trays or crates designed for the loading of specific property, or those whose rated load-carrying ability does not exceed 12,000 lb.

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MOTOR FREIGHT TRANSPORTATION
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Orangeville (Col. Co.), Pa.

Fig. 202-4
A regular
Warehouse
Truck

The Economy of Traffic Management

No. 4—Why the Production Department Should Not Be Hampered by Traffic Supervision in a Manufacturing Plant

An intelligent estimate of the cost of production is now difficult to obtain. It will continue to be difficult until executives are convinced of the need for setting up a single account for all costs of transportation, instead of tacking these costs "piece-meal" on to various accounts thereby "smoke-screening" the importance of "transportation cost" and distorting the cost of production.

OF all the departments of a manufacturing establishment that of production, naturally is the largest. For that reason perhaps this department is often burdened with types of work which actually are not part of the operations of production.

The production department in some organizations is assigned the task of attempting to manage traffic functions. This usually results in diversion of efforts from the purpose for which it was organized, and consequent efficiency loss in connection with traffic matters. Where this inconsistency prevails, it will be found that full consideration has not been given to the study of cost reduction and the elimination of waste.

An Actual Incident

It is true that some of the functions of traffic and production are closely related, but production is not transportation. The production department should handle work pertaining to its field of endeavor. Transportation affairs should be controlled by a traffic department. This can be demonstrated by relating the "high spots" of an actual incident.

Some years ago the traffic work of a certain manufacturing company was being performed by its production department. Of course, traffic affairs took a comparatively minor place in the department's efforts. It was interested principally in production. Moreover, none of the personnel had had any real training in traffic matters. Materials passing into and within the plant and the outward movement of products did not operate smoothly. Confusion prevailed.

Demurrage Cost \$15,000

Among other items of trouble, demurrage charges on freight cars were heavy. In one particular year, the total demurrage bill amounted to over \$15,000. All this, and more, was blamed on the production department. But the officials and executives of the company were the real offenders because they had failed to recognize the need for traffic department control.

Finally, the company officials were induced to install a traffic department as a separate unit in the organiza-

tion's business structure. Shortly after the department began its operations the confusion in connection with the movement of materials and products was eliminated and this led to the clearing up of the condition which had brought about heavy demurrage charges. Under the traffic department's supervision demurrage charges dropped to zero.

Space herein will not permit a detailed explanation of how that traffic department brought order out of chaos, other than to refer to the method employed to reduce demurrage. We use this situation because it is an axiom that high demurrage charges occurring month in and month out always point to inefficiency in plant methods all along the line. In the case being used, an outline of the plan embodies the solution of many of the troubles then current in that company's operations.

Daily Reports

Upon the installation of the traffic department the head of that division studied conditions as they existed and consulted with the superintendents of the other departments. Having completed his survey he tackled the demurrage irregularity as the first approach to solving the entire problem of lost motion, and developed a system of issuing daily reports by the traffic department. Every working day a copy of the report was sent to the plant manager and to each of the heads of those departments which received freight cars for unloading. These reports contained a list of the freight cars on hand and the car numbers were listed in the order of arrival dates. The listings enabled each interested department to note which cars should be unloaded first.

By the use of the simple, but effective, daily reports, cars were unloaded in proper sequence and inbound materials handled much more rapidly. When the daily report system was inaugurated a few of the department heads were antagonistic, using as their basis of opposition "that it never had been done that way." As time went on, however, and the traffic department continued to "hammer away" at the problem, they began to see the value of the plan



By HENRY G. ELWELL
Traffic Consultant

This is the fourth of six articles by Mr. Elwell, *DandW's* traffic consultant and president of Elwell, Phillips & Co., Inc., Elizabeth, N. J.

Mr. Elwell is singularly well qualified to discuss the economy of traffic management in relation to other functions of manufacturing and marketing because of his special training and long practical experience as a traffic manager, transportation expert and marketing counsellor.

As president of Elwell, Phillips & Co., Inc., he is traffic manager for a number of manufacturers, and other shippers, with plants situated in various sections of the United States. He was formerly traffic director of the Elizabeth Chamber of Commerce, resigning from that post in 1928 to give full time to his present activities.

Mr. Elwell is a practitioner before the ICC and the U. S. Maritime Commission, and is a member of the Assn. of Interstate Commerce Commission Practitioners.

In addition, he is a member of the Mfrs.' Assn. of New Jersey, the Traffic Club of Newark, N. J., the Rotary Club of Elizabeth, the Elizabeth Chamber of Commerce of which he is chairman of the Traffic Committee, and the Industrial Traffic Committee of the New Jersey State Chamber of Commerce of which he is vice-chairman.

o o o

and soon they were cooperating in a whole-hearted manner with the excellent results already mentioned. Never since has there been any thought in that company of foisting traffic work on the production department. The traffic department had come to stay because its supervision supplied the necessary control of the company's traffic and transportation affairs, something which no production department can do, no matter how capable it may be in its own field of operations.

Tie-In With Purchasing

In the preceding article (see *D and W*, April, p. 53) mention was made of the fact that the purchasing

department of a manufacturing establishment is interested in obtaining controlled movement of shipments into the plant. This applies equally to the production department, although from a different viewpoint. Thus, the needs of these two departments overlap in regard to inbound movements of raw materials and supplies, hence muddling is a possibility because of cross-current of authority if one or the other attempts to conduct the work. The controlled movement of inbound shipments is a part of traffic activities which should be handled by that department if the production department, as well as the purchasing department, is to receive the full benefits.

Not alone in connection with inbound shipments is the production department interested. Its concern extends to the movement of outbound products. Here, again, a traffic department's assistance is required for properly expediting rush orders, or for tracing delayed consignments.

Intra-Plant Problems

Inasmuch as traffic supervision also extends to some extent to the movement of goods within a plant, intra-plant problems arise which are of such nature that the help of a traffic department is essential to the production department. Among these are questions pertaining to packing, weighing, storage, loading and unloading, entailing materials handling, and applying to raw materials and finished products.

Chief among the factors just listed is that of materials handling in which time and money will be lost unless equipment adapted to the needs is installed and, therefore, the production department and a traffic department upon determining the needs should reach out and obtain the advice of a representative of a materials handling equipment manufacturer. On the basis of this three-way cooperation materials handling equipment best suited to the particular requirements will be provided.

The suggested manner of selecting materials handling equipment is referred to because of the importance of the subject. It is only a remote possibility that proper types of equipment would be installed by the single efforts of the production department, or of a traffic department, or of a representative of a materials handling equipment manufacturer, each working alone. It also should be noted that the same principle of action is applicable to allied traffic problems.

Bracing Carload Freight

As another example of how the production department can be helped by a traffic department take the bracing of carload freight. A certain company was receiving frequent claims for damages from customers due to improper bracing of carload shipments. Other customers complained because the lumber used for bracing was too heavy and the quantity and size of the nails made it hard to unload the cars. The traffic department, in cooperation with the

superintendent of the production department, entered into a study of the bracing methods and at its conclusion recommended changes which were adopted, resulting in reducing the cost of bracing materials and labor, as well as lowering the freight charges, with no more complaints from customers.

Cost Break Down

As to costs, the average production department is seriously handicapped under present day cost accounting because of the general practice which does not allow for definite segregation of transportation costs from those of production or manufacture. The production department receives all possible assistance from a traffic department in the control of costs, but an intelligent estimate of the cost of production is now difficult to obtain. It will continue to be difficult until executives are convinced of the need for setting up a single account for all costs of transportation, instead of tacking these costs "piece-meal" onto various accounts thereby "smoke-screening" the importance of "transportation costs" and distorting the cost of production.

Summing up, we find: that the production department is not in a position to properly direct traffic operations, but that it does benefit from the assistance of a traffic department in reference to the control of inbound and outbound shipments, demurrage, etc., as well as in connection with problems relating to intra-plant transportation.

Shortage of Lumber for Crates and Boxes Expected to Continue for Some Time

There is every reason to expect that the present critical shortage of lumber for crates and boxes for shipping vegetables and tree fruits will continue until, at least, mid-summer, C. B. Moore of Los Angeles, managing director, Western Growers Assn., an organization of California and Arizona growers and shippers of farm products, declared in a recent report on the box and shuck situation and its current and future effect on the shipment of perishables.

Mr. Moore pointed out in the report that a definite shortage of lumber for processing into containers for fruit and vegetable shipping became apparent in March. The reason for the shortage, lack of lumber and manpower in the lumbering industry, presents no early prospect of relief, he declared, warning that a serious shortage of lumber products to meet crate needs will probably continue for some time.

The shipping association official declared that a marked shortage of manpower and equipment in logging camps and sawmills has made it impossible to produce sufficient lumber products to maintain an adequate supply of shooks and box material for the food producing industry.

Reviewing the situation, Mr. Moore

asserted that California and Arizona vegetable growers and shippers had been faced with a progressively increasing problem of securing sufficient shuck and box material since last October. The War Production

War Bond Figures

The Fifth War Loan drive extends from June 12 to July 8. The goal is \$16,000,000, of which six billions will be sought from individual investors.

More than 55,000,000 Americans own at least one war bond. That's an average of better than 1½ bond owners for every U. S. family.

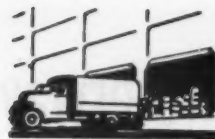
Total sales in the four war loan drives, plus the sales of savings bonds, aggregate more than 87 billion dollars. Three weeks after Pearl Harbor it was only 2½ billions. Individual investors purchased 32½ billions of the total, 13 times more than their holdings in December, 1941.

About 27,000,000 Americans are now putting almost 10c of every dollar they make into war bonds every pay day. They're plowing back into the war effort 475 million dollars a month.

Board and War Food Administration, he pointed out, had foreseen a shortage of lumber for shipping crate purposes. Those bureaus, however, he emphasized, had developed a restrictive program which the vegetable producers and shippers regard as untenable and unsound for the reason that no Government agency could effectively regulate the planting of products as well as their shipment by merely signing an order.

Mr. Moore's report declared that the difficulties involved in devising a restrictive regulation for the growing and shipping of vegetables are apparent from the repeated postponement of the effective date of WPB Order L-232. This order was originally scheduled to become effective on Jan. 1, 1944, was postponed until April 1, and has since been set ahead to July 1. These postponements were made, Mr. Moore declared, because of the realization that the order, as drawn, was impractical for regulating both the use of the finished crates and boxes and the production of box shuck material. He predicted that a revised form of Order L-232, more adequately covering the complicated phases of the growing and shipping problems of the industry, would be issued by WPB about June 1. (Herr)

Cold Storage...



Milwaukee Warehouses Reported Glutted

Milwaukee cold storage warehouses are so loaded with foodstuffs that appeals have been made to the federal government to move some food out to make room for new production.

There are 2,000,000 lb. of lard in the freezers there, it is said, and the egg supply is so high that warehouses are said to be finding it difficult to take any more shell eggs.

The lard situation is traceable to the fact that there has been an unprecedented slaughter of hogs this season. That has also caused such a huge supply of bacon that the government is now appealing to consumers to eat more bacon. Bacon ration points have been reduced to one a pound, but the breakfast meat piles up because the government is not taking as much of it as other cuts.

To make more room, food handlers here have been asked to remove 20 per cent of their goods from cold storage, according to J. D. Godfrey, Milwaukee wholesale distributor. (WTNB)

Spokane Firm Adds Space

Opening a new cold storage addition recently, the Empire Cold Storage Co., N1327 Oak St., Spokane, Wash., has more than doubled its cold storage installations, filled with foodstuffs. Within 24 hours of its addition's opening, more than 160,000 lb. of meat had been stored as well as other comestibles. If another plant were built a block square it could be filled, J. H. Shaeffer, secretary and treasurer of the company, commented, pointing out also that "the food situation being what it is there is more demand than can be supplied. The new unit is a 5-story addition, covering 60x70 ft. of floor space. Three floors are devoted to sharp freezing and two to holding temperatures. (Littelljohn).

Cold Storage Space for Food Stocks Considered as Generally Adequate

On the whole, officials and operators are of the opinion that there is adequate cold storage space for all foods, with the possible exception of a few specialties, and perhaps occasional temporary congestion in some areas, according to recent reports and surveys made on the subject.

Heavier than normal withdrawals of frozen fruits, vegetables and creamery butter have been noted, and the recent lifting of meat rationing, together with the orders issued in March by the War Food Administration designed to make refrigerated storage space available for the accommodation of perishables currently produced, by prohibiting the cold storage of other products, and by limiting the maximum storage period on all commodities to 10 months, are understood to have relieved congestion in certain areas and to have made possible more accurate appraisal of needs and probabilities.

However, it has been pointed out that a number of distributors of frozen foods have not yet complied with the WFA order to withdraw 20 per cent of such foods from warehouses, and until they do, the order prohibits them from storing more goods or hav-

ing in storage more than 80 per cent of their holdings of a month ago, without a WFA permit.

Nevertheless, it is said, there is plenty of freezer space available for butter, fruits, vegetables, poultry, eggs and meats. But storage conditions vary from week to week, especially in coastal areas which supply convoys, and in some inland areas.

Some of the specialties that are understood to be affected by present conditions include fresh citrus fruits, shell eggs, onions and nuts which require cooler space at temperatures between 32 and 34 deg. F. and separate storage from other foods.

Nut dealers, in particular, complain that nuts in the shell will spoil in warm weather unless adequate cold storage space is found. The WFA order forbids putting nuts in the shell into cold storage without a permit, the explanation being that WFA wants to save space for surplus eggs and does not approve of storing shells. But dealers say that forcing the shelling of nuts is contrary to the trade custom of shelling them at the place of production and affects the quality of the nuts.

ICC Ruling Favors Shippers

Shippers of root vegetables "mixed with leafy vegetables" from Texas to eastern destinations are given an opportunity to save from \$1 to \$35 a car under an order from the Interstate Commerce Commission issued last month.

The I. C. C. ruled against the effort of eastern carriers to limit shippers

to a single carlot minimum loading by eliminating an alternate minimum now in the tariff.

The I. C. C. legitimized the existing rate as requested by William J. Augello, general traffic manager for F. H. Vahlsing; Ralph J. Kettler, for Atlantic Commission Co.; James L. Pease and John S. Griffin, intervenors for the WFA; M. D. Miller, for OPA and George H. Muckley, for the Southern Pacific Railroad.

New Container Order Effective July 1

Amendments to container Order L-232 have been issued effective July 1.

Fresh fruit and vegetable container quotas are set on an annual basis rather than quarterly as in the original order and quotas are transferable between crops covered, providing a large measure of latitude for shippers who are required to certify to container manufacturers that their orders comply with terms of L-232.

The order is not considered completely satisfactory to WFA officials who have been working on the amendment, pointing out its general looseness and the difficulties of compliance enforcement.

Profit Margin of 1¢ a Dozen Allowed By WFA for Eggs Packed in New Cases

An increase of one cent in the margin of profit for egg handlers buying under the War Food Administration's purchase program who use new cases has been authorized by WFA.

Under the new regulation, agents will receive 30c. a dozen for eggs packed in new cases, while the former rate of 29c. will be maintained on eggs packed in used cases that still are in good condition.

The regulation was issued after consideration of a recommendation

submitted at a series of meetings last week between WFA officials and members of the egg industry advisory committee calling for a flat one-half cent increase on all eggs sold.

WFA, however, felt that it would be more equitable to pay the extra cent for new cases and leave the price where it was on used cases.

The agents, buying eggs unpacked from farmers at 26c. a dozen, supply their own cases.

Waterways and Terminals...



Government and Shippers Protest Higher Wharf Rates at Los Angeles

Meeting in open hearing for discussion of proposed increases in wharfage and dockage rates at the Port of Los Angeles, the Los Angeles Board of Harbor Commissioners was advised by the War Food Administration that the 60 per cent increase (from 25c. to 40c. per ton) in charges on intercoastal, off-shore and foreign merchandise proposed for the harbor is "... unjust and unreasonable."

Charles B. Bowling, chief, transportation, rates and services division, WFA, Washington, D. C., advised the commission that the increased costs of pier operation during the war

The California Assn. of Port Authorities at a meeting held last month decided to abandon any further attempt to increase wharfage charges for an indefinite period, pending results of the investigation to be conducted by the United States Maritime Commission into dock operation costs.

period, which is one of the arguments advanced in favor of the rate increase, do not justify the increase in compensatory income.

"Wharfage charges, as such, are borne by the shipper, consignee or owners of the merchandise and accrue directly to the pier owner or operator," Mr. Bowling pointed out. "Wharfage charges are a part of and constitute an integral factor of the through transportation costs of moving merchandise via the port in question in interstate and foreign commerce."

Steamship representatives advised the commissioners that increases in charges are unnecessary; that it would be unfair to collect funds from the present generation of shippers to pay for harbor improvements many years in the future; and that increasing the costs to general merchandise while leaving unchanged costs on oil, lumber, coal and other commodities is unfair and discriminatory. (Herr)

First Ore Shipment 16 Days Earlier

First lake-rail shipment of iron ore this season from Lake Superior arrived in Pittsburgh 16 days earlier than last year.

Pittsburgh Steamship Co. which last year carried a total of 35,000,000 tons of ore in its own 75 and in chartered ships docked after its Duluth to Conneaut, O., run (average round trip seven days, including loading times). The ore went from Conneaut to Pittsburgh by rail.

Sees Ocean Freight Unaffected by Plane

Walter P. Hedden of the Port of New York Authority, predicted that 10 years after the war two-thirds of overseas passenger traffic would be air-borne but that the bulk of freight still would be carried by ships.

Mr. Hedden, the authority's director of port development, spoke before the New York University Institute of post-war reconstruction.

"In the field of freight," he said, "the airplane cannot expect to achieve more than a fraction of the total trans-oceanic business, for the simple reason that the cost of air cargo transport will be about 100 times the cost of ocean transport, whereas the passenger travel cost will not be greatly different."

He said New York would retain a pre-eminent position as a transportation center with the coming of "the air age in international travel."

Buys Marine Terminal

Marine terminal for distribution within 150 miles, including a continuous barge line from Socony's refinery near St. Louis, Mo., by river to Marietta, O., will be established by Socony-Vacuum Oil Co. in purchasing the National Refining Co. property at Marietta. (Leffingwell)

Shortage of Men For Lake Shipping

Reports from the Great Lakes, with the season well under way, reveal that 95 per cent of all ships on the Lakes are moving on schedule, fully manned, the Office of Defense Transportation has announced. Some ships are sailing under waivers, however, indicating that difficulties in getting skilled and experienced men still exist, the ODT added.

Under a new War Manpower Commission plan announced last month, the U. S. Employment Service offices in the five regions around the Great Lakes will handle all orders for Lakes seamen and take responsibility for staffing the vessels. The Recruitment and Manning Organization of the War Shipping Administration will stand by to supplement the activities of the USES.

Surplus Foreseen In Small Cargo Boats

Predictions have been made by traffic managers in river communities that following the war there should be a surplus of small cargo boats available for transporting grain, ore, coal, and other products on the Great Lakes and navigable rivers.

For many months past the government has been building sea-worthy tank landing barges on many points of the Ohio River, which it is said can be converted into freighters at a reasonably low cost. The boats are slightly longer than 300 ft., flat-bottomed, with considerable cargo-carrying space. (Kline)

Great Lakes Yards Have Constructed \$150,000,000 in Shipping Since '42

The Maritime Commission has paid shipbuilders on the Great Lakes more than \$150,000,000 for constructing 117 vessels of various types and 200 knocked-down barges since May, 1942. W. E. Spofford, Chicago, regional director of construction, has announced. He said that the 14 yards filling Maritime Commission contracts built small destroyers, ocean-going tugs, cargo ships, tankers, 16 giant Great Lakes ore carriers, harbor tugs, and three types of barges.

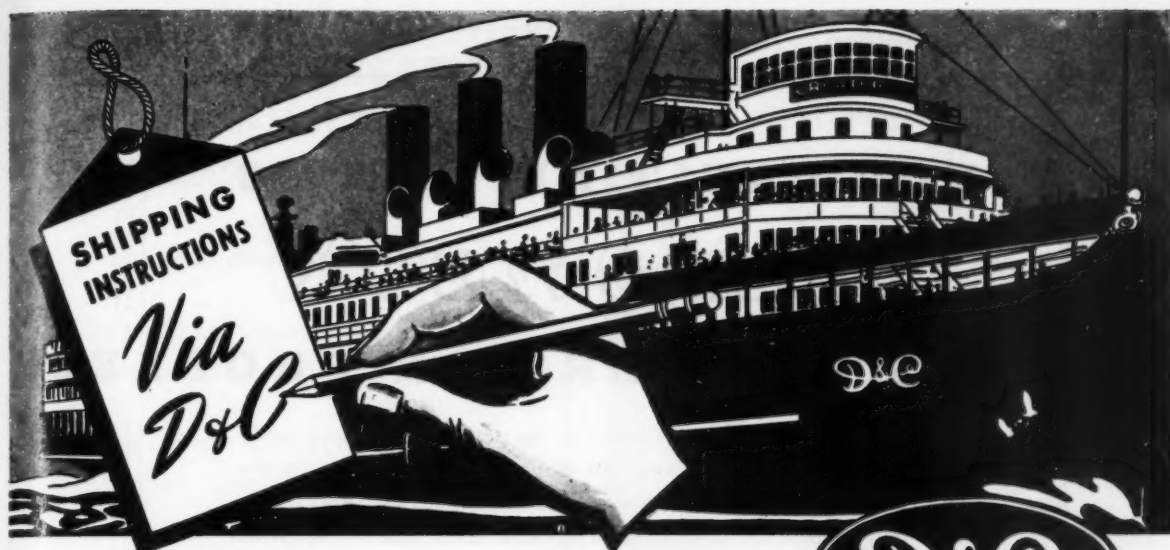
Viewing the record as phenomenal, he said that obstacles included blizzards, sub-zero weather, and ice four feet thick at times in launching ways, as well as difficulty of delivering ships to salt water.

Locks in the St. Lawrence waterway do not permit passage of ships over 259 ft. in length, whereas it was

found 600 ft. ships could be taken down the Illinois-Mississippi route by use of pontoons in shallow water.

Some Great Lakes yards are currently working on cargo vessels with length of 338½ ft. and beam of 50 ft., the largest ocean-going craft ever built on the lakes. The vessels are diesel-powered, smaller than Victory ships, but of comparable speed, and may meet needed post-war requirements of American shipping.

Besides the \$150,000,000 going direct to shipbuilders in the Great Lakes area, millions more have gone to 8,000 prime and sub-contractors in the region. Employment in commission yards on the lakes totals 22,587 persons, compared with 4,000 workers in normal times. For all the shipyards on the lakes, employees total around 68,000 persons. (Kline)



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| ✓ Store-Door Pick-up and
Delivery | ✓ Convenient |



DETROIT & CLEVELAND NAVIGATION CO.

DETROIT • CLEVELAND • BUFFALO

YOU CAN'T AFFORD TO SHADOWBOX WITH THE PAPER-BOX PROBLEM!

NO, SIR. Or with any other angle of the paper conservation problem. Our boys need every bit of paper and paper board the Army can get to ship their precious invasion supplies in. And it's up to you and every other manufacturer to cut and cut and cut again on the use of paper and paper board.

For every time a convoy sets sail—that's so much more paper and paper board in action. And the supply, as you know, is diminishing.

So your job is to figure every known way, yes, and a few unknown ways, to **USE LESS PAPER AND PAPER BOARD.**

Don't worry about the public, your public, squawking about your cutting down. The big all-out national drive right now is selling the public on the necessity for paper conservation. They'll be with you.

The green light is yours. Step on it.

If your company and your community have not already started paper Conservation Committees, why not get them started now yourself?

USE LESS PAPER BECAUSE

Paper vests have proved excellent for aviators and ground crews as cold protection.

Paper is used for disposable gun covers and ordnance wraps to protect such equipment while making invasion landings.

The Army supplies helmets of laminated fiber for non-combat duty in the tropics.

Many essential airplane parts are fabricated of plastic with a paper base.

Army trucks require 20 pounds of paper for safe delivery.

It takes 25 tons of blueprint paper to make a battleship.

USE LESS PAPER THESE WAYS

Review all printed forms periodically for essentiality; consolidation; elimination of waste space; standardization of sizes, weights, color, grade; elimination of color where possible.

Eliminate carton insert and/or directions when possible and substitute information on label.

Overhanging, extended or padded carton tops should be eliminated unless they can be justified in a critical paper shortage.

Use and re-use carbon paper consistently.

Consider the possibility of reducing the length and increasing the diameter of tubular products as a means of conserving folding and set-up boxes.

Let's All Use Less Paper

This advertisement prepared under the auspices of the War Advertising Council in co-operation with the Office of War Information and the War Production Board.

ELECTRIC PROTECTION

against

FIRE • BURGLARY • HOLDUP

Aero Automatic Fire Alarm

•
Sprinkler Supervisory and
Waterflow Alarm Service

•
Watchman Supervisory and
Manual Fire Alarm Service

•
Burglar Alarm—Holdup Alarm

ADT

Controlled Companies of

AMERICAN DISTRICT TELEGRAPH CO.

155 Sixth Avenue

New York, N. Y.

Central Station Offices in all principal cities



DARNELL

Casters & Wheels

Equipment — Services — Supplies

Classified Index to General Advertisers of Equipment, Services and Supplies for Shippers, Carriers and Warehousemen

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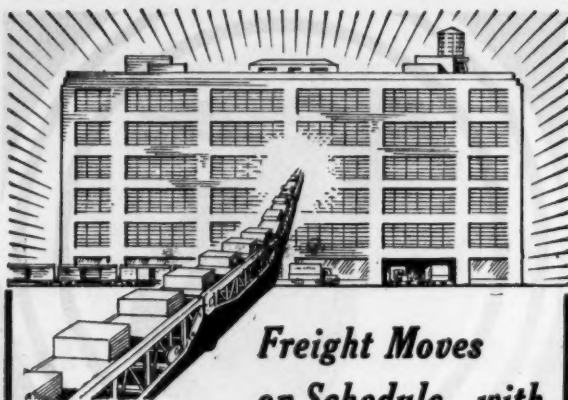
When writing advertisers please mention D and W

DEPENDABILITY, AND QUALITY

Reduce floor and equipment wear to a minimum — increase employee efficiency with the casters that "always swivel and roll."

DARNELL CORP. LTD. 60 WALKER ST., NEW YORK 13, N.Y.
LONG BEACH 4, CALIFORNIA 36 N. CLINTON, CHICAGO 6, ILL.

A SAVING AT EVERY TURN



Freight Moves on Schedule...with Conveyors by PORTABLE

Extreme flexibility of use makes freight type Portable Conveyors your best material handling bet. Portables break costly bottlenecks on the loading platform, put every available cubic foot of storage space to work for you. Portable's ability to load and unload, stack, pile and move freight is unmatched for speed, economy and daily dependability.

Freight type Portables can be used in dozens of ways to lick the toughest material handling set-up. Want evidence? Write for complete information.

Portable Machinery Division
A. B. FARQUHAR COMPANY
203 Duke St. York, Pennsylvania

HAISS CARGO CONVEYORS

20 to 35 ft. length

★
Ball-bearing rollers

★
Electric or gasoline
motor drive

★
Also low headroom
and special purpose
conveyors

Write for data and
prices, naming size and
service conditions.



**GEORGE HAISS
MANUFACTURING CO., INC.**

Canal Place & E. 144th St., New York 51, N. Y.

Builders of High Grade Materials Handling Equipment for Over 50 Years

FOR HEAVY DUTY

FILCO

CUT COST • INCREASE SPEED!

EASY-RIDE CONVEYORS



This modern gravity conveyor carries cases or cartons to any department speedily and efficiently! Sturdily constructed reversible curves, straight sections. Permanent or portable; with or without adjustable supports. Our engineers can solve your problems—write us your requirements and ask for illustrated folders.

EQUIPMENT DIVISION

The FILTER PAPER Co.
58 E. 24th St. Chicago

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Baker-Raulang Company 1
Jaeger Machine Company 6
Mercer-Robinson Company, Inc. 45
Willamette-Hyster Company 18

Tipping Rack

Manufacture of a tipping rack that is said to revolutionize the method of servicing the running gear of platform trucks and trailers has been announced by Service Caster & Truck Division of Domestic Industries, Inc., Albion, Mich.

Known as the "Tip-e-z," the device is said to permit one man to service a fleet of trucks or trailers in a short time, and at any spot, any time. Heretofore, two to three men have been required to do the work.

Simple in operation, the nose of the device is pushed beneath the truck deck, a handy book is fastened to the opposite side of the deck and the truck is cranked snugly against the "Tip-e-z" frame. The frame is then pulled toward the operator and the truck is turned bottom-side-up in cradle fashion. Only 17 seconds, it is said, are required to complete the tipping operation. Once over, the running gear is conveniently accessible for greasing, cleaning and caster replacement.

Construction is all-steel, electric welded, and it is said to be adjustable to fit most any truck height.

Don't assume you can't get equipment—Inquire.

Materials HANDLING EQUIPMENT



Veteran Expeditors!

Tractor Cranes—Trailer Trucks,
Stacking Elevators. Fork Lift Trucks
Hoisting Units, etc. for Warehouses, Airport
Pier and Yard Service. Literature on Request.



—THE NAME that
CARRIES WEIGHT

MERCER-ROBINSON COMPANY, INC.
30 CHURCH STREET, NEW YORK 7, N. Y.

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Meyercord Company Third Cover

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FREIGHT TERMINALS

Harborside Warehouse Company, Inc. Back Cover
Manhattan Storage & Warehouse Co. Front Cover

When writing advertisers please mention D and W

SPEED PRODUCTION SAVE MANPOWER

Use Revolvator mechanical men to free live men and for faster and more scientific lifting, piling, and moving within your plant.

REVOLVATOR PORTABLE ELEVATORS

enable you to pile clear to ceiling. Lift to any reasonable height. Collapse to pass under low doorways. Wheel easily from place to place. 27 Standard sizes and types. Send for the REVOLVATOR "Selector," and Bulletin 139.

RED GIANT LIFTRUCKS

Indispensable for quick and safe moving of parts and products by platform skids to assembly line, freight car, or warehouse. Liftruck can drop skid on REVOLVATOR platform for piling without touching goods. Capacities 1,000 to 15,000 lbs., single, double or multiple stroke hydraulic. Send for new folder 140.

REVOLVATOR HYDRAULIC ELEVATORS

Safe, economical, and reliable for short lifts, such as basement to street level; also as ramp eliminators and press feeders. Comply with all state requirements. For hand, electric, water or oil-air operation. Send for Bulletin 96J showing typical installations and drawings.

Beware of Imitations — Stick to "The Old
Reliable" — The Leader for over 40 Years.

REVOLVATOR Co.

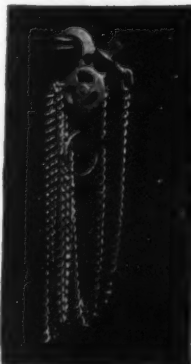
DESIGNERS AND MANUFACTURERS OF MATERIAL HANDLING EQUIPMENT

396 86th St. NORTH BERGEN, N. J. Since 1904

GREATER SAFETY!



**MONARCH ONE MAN
CAR DOOR OPENER
PROTECTS LIFE & LIMBS**



GETS MORE WORK DONE FASTER—SAFER!

No strained muscles
No slips or falls
No broken arms, legs
or mashed fingers
No fatalities
No time wasted
No "gangs" needed
No time lost

One man can open the most binding,
bulky box car door with the Monarch Car
Door Opener. Get greater safety... speed
loading and unloading schedules... order
on ample supply to fill your needs today!

PRIORITY NEEDED

\$17 50
EACH

MINING SAFETY DEVICE CO.
Bowerstown, Ohio



THERE'S MORE THAN ONE WAY TO REDUCE COSTS

If you're one of the many concerned with problems of moving men, material and merchandise—and bedeviled by cost reduction problems—we think you'll find the solution in Sedgwick Roto Drive.

Roto Drive is a simple principle of operation based on the controlled movement of endless chain. It is the main reason for the efficient operation of Sedgwick aircraft elevators—ammunition hoists—between-deck elevators and galley Roto-Waiters.

Because it is so simple it is adaptable. It can be applied to many "man" handling and materials handling problems.

But we don't ask you to take our word for it. We don't expect you to. We hope instead that you're skeptical—that you ask for proof of Roto Drive's adaptability and performance.

We think we can prove that Sedgwick's Roto Drive will do everything we say it will—and more. We think you'll be convinced it can help reduce costs by helping to move men, material and merchandise better and faster.

"Men Who Know Are Sold on Sedgwick"

Sedgwick MACHINE WORKS

155 WEST 15th STREET — NEW YORK 11, N. Y.

Elevators • Roto-Waiters • Hoists • Materials Handling Equipment

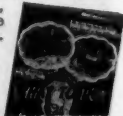


PATCH FLOORS

... Truck Over Immediately

Here's a new, fast way to patch broken concrete without having to close off the area. Use durable INSTANT-USE... a tough, plastic material which you simply shovel into hole—tamp—and run traffic over immediately. NO WAITING. Bonds tight to old concrete. Makes smooth, solid, heavy-duty patch. Withstands extreme loads. Keep a drum on hand for emergencies. Immediate shipment.

REQUEST DESCRIPTIVE FOLDER
And Details of FREE TRIAL OFFER



INSTANT-USE

FLEXROCK COMPANY

3687 Filbert St., Philadelphia 4, Pa.

Please send me complete INSTANT-USE information.....details of FREE TRIAL OFFER—no obligation.

Name

Company

Address

Prevent Damage From Moths!

USE

SOLVAY
PARA-DICHLOROBENZENE

Para-dichlorobenzene, properly used, is recommended by the U. S. Dept. of Agriculture as an actual moth killer. Kills moth larvae and also deodorizes as it prevents moth damage.

Write for complete folder containing simple, easy-to-follow instructions. Prices for 100 and 200 lb. drums on request. Write today to Dept. DX.6.

SOLVAY SALES CORPORATION

Analyses and Chemical Products Manufactured by
The Solvay Process Company

40 RECTOR STREET, NEW YORK, N. Y.

INSECTICIDES

Solvay Sales Corporation 46

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PADS (Kersey)

Bearse Manufacturing Company 47
New Haven Quilt & Pad Company 106

Don't assume you can't get equipment—inquire.

DOES THE WORK OF A WHOLE GANG OF MEN! BROWNIE FORK LIFT TRUCK



Lloads and stores materials of all sizes and shapes (3000 lbs. capacity; 108" lift)—more speedily, easily, economically. Wheel base 40"; turning radius, 67". Rugged, dependable. Investigate!

Immediate
Delivery upon
WPA approval
— Form 1319

Write for
Descriptive
Bulletin
#100

BERRY Motor Car Company

Mfrs. of Industrial Lift Trucks and Tractors
LOCUST AT 22ND • ST. LOUIS 3, MO.

The First Thought

of the careful, thoughtful, responsible handler of household goods, is

MASTERCRAFT FURNITURE LOADING PADS and VAN EQUIPMENT



for THEY ARE DESIGNED
FROM A PRACTICAL VIEW-
POINT AND CONSTRUCTED
SO DURABLY AS TO IN-
SURE THE UTMOST IN
ECONOMY.

Write today for prices on Mastercraft furniture pads, protective covers, refrigerator pads, floor runners and carrying straps.

BEARSE MANUFACTURING CO.

Incorporated 1921

3815-3825 CORTLAND STREET
CHICAGO 47, ILLINOIS

REFRIGERATED BODIES (Truck & Trailer)

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Hebard & Company, W. F.	48
International Harvester Company	36

When writing advertisers please mention D and W



MARK IT RIGHT TO REACH THE FIGHT

Stencil-Marking is the required type of marking for all war shipments. Marsh-Stenciling will save you up to \$600 annually in shipping room costs. To use, just cut a stencil, stroke with a Marsh Stencil Brush and your shipments are legibly, permanently addressed, and assured of prompt delivery. Write for free booklet, prices.

MARSH STENCIL
MACHINE COMPANY
22 MARSH BUILDING
BELLEVILLE, ILL., U.S.A.

PROMPT DELIVERY
IN THREE SIZES TO
MEET GOV'T SPEC:
1", 3", 1/2".

MARSH

HEBARD SHOP MULES

Designed for dependability as the result of 25 years of experience! Sturdy as an Ox. Maneuverable as a Swan. Again and again, Hebard Shop Mules are the answer to materials handling problems.

**WITHSTAND
TOUGHEST
USAGE!**

★ INTERNATIONAL ★ HARVESTER POWERED

A3 Victory Model Midget Shop Mule pictured, darts in and around work places with amazing agility. Short 66" turning radius. Width, 40" O.A. Height over steering wheel 54". Descriptive Bulletins, information and

PARTS AND
SERVICE
AVAILABLE FROM
IHC
INDUSTRIAL DEALERS
EVERYWHERE



A3 MIDGET
VICTORY MODEL

W. F. HEBARD & CO.

2433 S. STATE ST. 16. CHICAGO, ILL.

Weld-Bilt Spring Bearing Trucks

"SHOCK-CUSHION" YOUR
PRODUCT AGAINST
DAMAGE!



You save time, labor, men, floors and product damage when you put **WELD-BILT SPRING BEARING TRUCKS** on every handling job. Unique **SPRING BEARING** axle *absorbs* all floor shocks and wheel vibrations—for easier, faster trucking, longer truck life. **WRITE FOR BULLETINS NOW—on Weld-Bilt SPRING BEARING Platform and Two-Wheel Trucks.**

WEST BEND EQUIPMENT CORP.

231 WATER STREET, WEST BEND, WISCONSIN
MATERIALS HANDLING ENGINEERS

Manufacture Lift Trucks, Two and Four Wheel Trucks, Tipping Machines, Fork Platforms, Barrel Trucks and Racks, Portable Elevators and Special Equipment

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Baker-Raulang Company	1
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Thomas Truck & Caster Company	49
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Car Door Opener

A one man car door opener, which is said to make it possible to open or close binding box car doors in a few seconds is being offered by the Mining Safety Device Co., Bowerston, O.

The device is known as the "Monarch" car door opener. "It weighs only 15 lb.," the manufacturer states, "yet will withstand rough handling in freight yards and on shipping platforms. Case and hooks are of cast electric steel. Each link of the twist link chain is individually welded. It operates on a positive lever principle."

Don't assume you can't get equipment—Inquire.



Type
L-3

SAVES LABOR!

It is an easy job for one man, without helpers, to lift and transfer up to 800 lb. drum or barrel loads with a Sabin One-Man Truck.

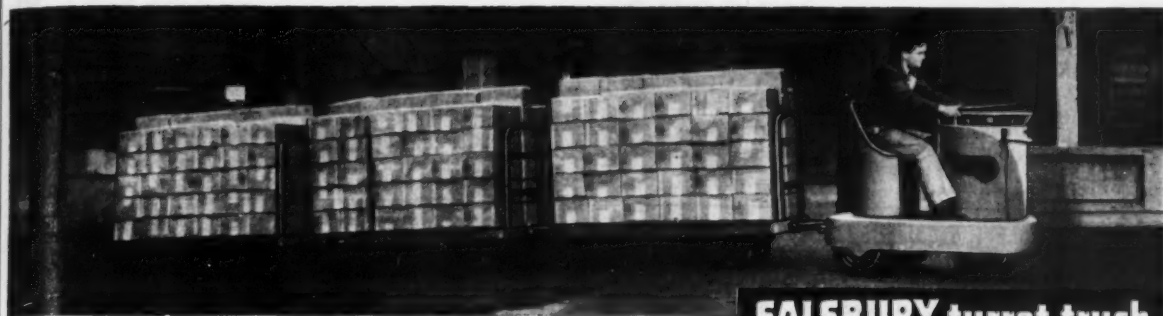


EXCLUSIVE THIRD-WHEEL FEATURE provides foot pedal for easy "break-over," insures better load support and balance and permits loaded truck to stand alone.

**WRITE FOR
FREE BULLETIN**

Showing all types

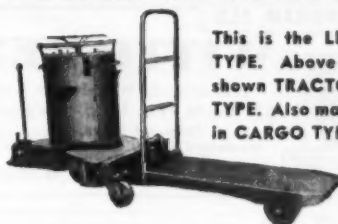
THE SABIN MACHINE CO.
6540 Carnegie Ave., Cleveland, O.

**SALSbury turret truck**

IDEAL for RAMP and PLATFORM HAULING

With the Salsbury Turret Truck you can realize a new efficiency in loading, unloading, and handling for terminals, warehouses, platforms, etc. The Salsbury automatic clutch and transmission give you unequalled maneuverability on ramps. Gear ratio changes automatically as required by load and speed—no gears to shift. Just feed the gas and it goes! Low in price—economical—made in 3 types. Send for literature.

Manufactured and distributed under license of Salsbury Corp., Los Angeles, Cal., by



This is the **LIFT TYPE**. Above is shown **TRACTOR TYPE**. Also made in **CARGO TYPE**.

NUTTING TRUCK & CASTER COMPANY

1421 DIVISION ST.

FARIBAULT, MINNESOTA

Makers of a complete line of Nutting Floor Trucks, Wheels and Casters

FLOOR TRUCK LEADERSHIP SINCE 1891



TRUCKS, PLATFORM (Powered)

Baker-Raulang Company 1

TRUCKS, SPECIAL (Hand)

Nutting Truck & Caster Company 49
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WHEELS (Industrial Truck)

Darnell Corporation, Limited 43
Nutting Truck & Caster Company 49
Thomas Truck & Caster Company 49

New Fountain Brush

Diagraph-Bradley, St. Louis, Mo., recently placed on the market a new type of fountain brush, manufactured of plastic, which, it is said, will work with any type of stencil ink now on the market.

This brush has a button control feature which, it is claimed, will not come loose or be subject to damage, as it is recessed in the housing of the brush flush to the outside surface. Air is forced into the ink chamber which prevents a vacuum.

A patented flange guide protects the tip from touching a table or bench if the brush is laid on its side. This same guide protects the fingers of the user from any ink and also protects clothing when the brush is carried in a pocket.

When writing advertisers please mention D and W

THOMAS TRUCK of Keokuk



THOMAS MAKES



4 WHEEL TRUCKS



2 WHEEL TRUCKS



CASTERS



RUBBER WHEELS

Safety One Man

BARREL TRUCK

- Trucker never touches barrel
- Automatic loading and unloading
- Sliding two-in-one chime hook
- Safe — no backstrain
- Balanced—truck carries load
- Easy rolling — Hyatt bearings
- Lifetime use — welded steel

A Clinch for One Man

Safer, faster, easier way for one to handle barrels, drums, kegs up to 1000 lbs. Chime hook engages rim and cast steel prongs slide under drum instant trucker pulls truck back. That's all there is to it! Rubber tired wheels.

Write for New Catalog No. 43

THOMAS TRUCK & CASTER CO.

421 MISSISSIPPI RIVER, KEOKUK, IOWA

D and W, June, 1944—49

BIRMINGHAM, ALA.

1880—Sixty-four Years of Service—1944

HARRIS TRANSFER & WAREHOUSE CO.

8 South 13th St., Birmingham 1

— FIREPROOF WAREHOUSES —

Merchandise and Household Goods

• STORAGE • CARTAGE • DISTRIBUTION • FORWARDING

Pool Cars Handled

Member of A.C.W.—A.W.A.—N.F.W.A.

Agents for Allied Van Lines, Inc.

BIRMINGHAM, ALA.

STRICKLAND TRANSFER & WAREHOUSE CO.

1700-1702 2nd Ave. So., Birmingham 3



General Merchandise Storage and Distribution

Pool Car Service a Specialty—Motor Truck Service

Centrally Located—Free Switching from All R.R.s.

BIRMINGHAM, ALA.

**WITTICHEN**

Transfer & Warehouse Co.

831 North 19th St., Birmingham 2

Fireproof Warehouse

Household Goods and Merchandise

Pool Car Distribution

Member: A.W.A. & M.W.A.

BONDED



MOBILE, ALA.

Merchants Transfer Company

9 So. Commerce Mobile 3

HEAVY HAULING—STORAGE

Pool Cars and General Merchandise—Bonded

Authorized Transfer Agents

A.T.&N., G.M.&N., L.&N., M.&O. &

Southern Railroads. Pan Atlantic S/S Corp.

MONTGOMERY, ALA.

Alabama Transfer & Warehouse Co.

P.O. Box 164, Montgomery 1

BONDED — FIREPROOF —
WAREHOUSE
STORAGE & DISTRIBUTIONMembers N.F.W.A. — A.W.A. — A.C.W. —
A.V.L.

MONTGOMERY, ALA.

MOELLER TRANSFER & STORAGE CO.

210-220 COOSA STREET

Merchandise and Household Goods

Low Insurance Rate Bonded Trucking Service

Pool Car Distribution

Members: A.W.A., N.F.W.A., So. W.A.

DOTHAN, ALA.

SECURITY BONDED WAREHOUSE

500-501 East Commerce St.

POOL CAR DISTRIBUTION

SERVING

S.E. Alabama

S.W. Georgia

N.W. Florida

Receiving—STORAGE—Handling.

Motor Freight Service to all points.

6-car Private Siding. Reciprocal Switching.

Efficient—Conscientious Branch House Service.

PHOENIX, ARIZ.

Phoenix Storage & Transfer Co., Inc.

401 West Jackson Street, P.O. Box 4073, Phoenix, Arizona

Specializing in merchandise storage and distribution. Private Siding 10 car capacity, free switching either Santa Fe or Southern Pacific. 6,500 feet handling dock for pool car distribution. Modern air conditioned offices.

LEGAL NEWS . . .By LEO T. PARKER
Legal Editor**Brief Review
Of Recent Cases**

In every law suit evidence of one important point of law may decide the case in your favor. Here are some legal pointers explained by the higher courts last month:

In *Whitney v. Louisville and N. R. Co.*, 177 S. W. (2d) 139, Ky., it was shown that a train struck a truck belonging to the Whitney Transfer Co. The driver of the truck was killed. The railway company made a compromise settlement with the widow under which it paid her \$2,475 and agreed to pay \$1,600 additional in the event she failed to recover as widow and for her child the maximum of \$4,000, plus \$75 burial expenses, from his employer under the provisions of the

State Workmen's Compensation Act.

Later the transfer company filed suit to recover from the railway company the amount it was compelled to pay, as compensation, to the widow. The higher court held the railway company not liable.

In *Grippentrog v. Cheese Makers' Mfg. Co.*, 13 N. W. (2d) 391, Wis., it was shown that a company produced \$10,000 worth of merchandise of which only \$600 worth was shipped interstate. However, the higher court held the employees entitled to wages specified by the Fair Labor Standards Act. The court said:

"The activities of defendant's employees in the production of the \$600 worth of scale boards, which were shipped in interstate commerce, could be considered by the court to be a substantial part of their total activities which produced scale boards worth \$10,000."

For Shippers' Convenience, States, Cities and Firms are Arranged Alphabetically

In *Thompson v. Richards*, 146 Pac. (2d) 359, Kan., the court held that the only freight charges that may lawfully be collected on an interstate freight shipment must conform with the freight tariffs duly published and filed in conformity with federal law.

In *Noonan v. Fruco Co.*, 140 Fed. Rep. (2d) 633, the court held that an employee suing under the Fair Labor Standards Act for overtime pay has the burden of proving that he was engaged in the production of goods for interstate commerce. If he fails to prove his contentions he will not be awarded a favorable verdict.

In *Rigopoulos v. Kervan*, 140 Fed. Rep. (2d) 506, the court held that failure to pay an employee overtime compensation when due under the Fair Labor Standards Act rendered the employer liable for liquidated or additional damages.

In *Lakehead Transp. Co. v. Kewanee*, 140 Fed. Rep. (2d) 491, the court held that when common carrier seeks a limitation of liability it has the burden of proving that the loss or damage was occasioned without its privity or knowledge.

In *National Carloading Corp. v. Phoenix-El*, 178 S. W. (2d) 133, Texas, the court held that a freight forwarder which is not a common carrier and is not entitled to a certificate of public convenience and necessity cannot escape liability to a

LITTLE ROCK, ARK.



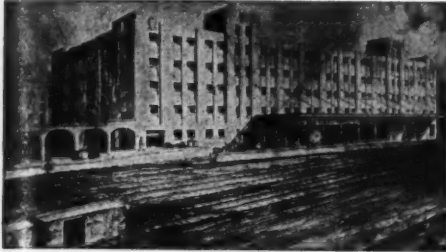
COMMERCIAL WAREHOUSE CO.

801-7 East Markham Street
A Complete Branch House Service - - Fireproof Sprinklered - - Low Insurance - - Private Railroad Siding - - Quick Service.

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motor carrier for under-charges on the grounds that the forwarder's tariff had not been stricken by the Interstate Commerce Commission.

In *Guess v. Montague*, 140 Fed. Rep. 500, the court held that no employer may make a valid contract with an employee to avoid payments of wages specified by the Fair Labor Standards Act. In other words, although an employee agrees to work at low wages, he may at a later date sue his employer and recover wages and attorney fees specified by the Fair Labor Standards Act.

In *Southern Pacific Co. v. Southern Rice Sales Co.*, 178 S. W. (2d) 264, the court held that although a common carrier is presumed to know the lawful shipping rate existing at the time of a shipment, yet the shipper is also conclusively presumed to know the lawful rate and he cannot recover because the carrier erroneously quoted a low rate.

This decision differs from the usual suits which involve litigations between carriers and shippers wherein the former agrees to transport merchandise at a freight rate lower than specified by the lawful tariff.

In *Walgreen Co. v. Murphy*, 53 N. E. (2d) 390, Ill., the higher court held that a "strike" is generally defined as a "stoppage" of work by common agreement of a body of workmen for purpose of obtaining or resisting a change in conditions of employment.

In *Hudgins Transfer Co., Inc. v. Law*, 29 S. E. (2d) 107, the higher court held that a contractor is liable in every respect for failure to fulfill promises and guarantees of special service.

In *Pennsylvania Railroad Co. v. Adams Mercantile Co.*, 16 So. (2d) 796, Ala., the legal question involved payment of freight charges. This court said: "It is now well settled that if the consignee does not voluntarily pay the freight the consignor remains liable therefor."

In *Schiro v. Cummings*, 53 N. E. (2d) 489, Ill., the court held that a verdict of \$5,000 for personal injuries and damages sustained by a truck driver in collision with a street car was not excessive, where he was unable to work for 10 months due to the injuries causing great pain, and his hospital and medical expenses and truck repairs exceeded \$350. In this case the jury decided that the negligence of the operator of the street car caused the injury.

Secret Time

A modern court refused to render a verdict favorable to an employee who sued for overtime under the Fair Labor Standards Act, where the testimony proved that the employee had failed to notify his employer the overtime demands at the termination of each period.

In *Gale v. Fruehauf Trailer Co.*, 145 Pac. (2d) 125, Kan., it was shown that

an employee kept two sets of books of the time he worked. He sued his employer to recover back wages, lawyer's fees, etc., based upon his personal and secret accounts. The higher court refused to allow him any overtime payment, and said:

"We think the trial court had good ground for discrediting the testimony of plaintiff (employee) in view of his admission that he kept two records of his overtime, one on which the defendant (employer) relied and according to which plaintiff was paid, and another private record for his future use on which to mulct his employer after he had quit his service."

Also, this court held that an employee is not entitled to wages specified by the Fair Labor Standards Act where the testimony proves that the employee was engaged in any retail or service establishment the greater part of whose selling or servicing is in intrastate commerce.

Watchman's Wages

A night watchman who guards merchandise and equipment used in interstate commerce is entitled to wages specified by the Fair Labor Standards Act.

For illustration, in *Martin v. Graham Ship-By-Truck Co.*, 176 S. W. (2d) 842, it was shown that a night watchman was employed by a trucking company engaged in interstate commerce transportation. He alleged that he worked from Jan. 15 until June 27 seven days a week; that he regularly reported and began working at 5:30 p. m., and worked until 7:30

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a. m., or 91 hours per week during the time he was employed. His duties consisted of watching the trucks in the yard to prevent thieves from molesting them, of watching the open dock, of opening and shutting the gates for trucks, of janitor work in the office.

The watchman sued his employer to recover \$1,474.70 which represented time and one-half for the hours he had worked each week over 40 hours, and also the difference between the hourly wages he was paid and 30 cents per hour specified by the Fair Labor Standards Act. The higher court held in favor of the employee, and said:

"There was ample evidence upon which to base a finding that plaintiff's (employee's) wages and hours were governed by the Act."

Sales Tax Void

The power of taxation is essential to the existence of a state. But when a state proceeds to regulate commerce among the several states it is exercising the very power that is granted to Congress and is doing the very thing which only Congress is authorized to do.

For example, in case No. 38677, American Bridge Co. v. Smith, it was shown that a company has its principal place of business in Pittsburgh, Pa., and employs salesmen to sell its products to customers in Missouri. The merchandise was shipped directly from Pennsylvania to such customers. The Supreme Court of Missouri held that the State of Missouri could not

compel the seller to pay a sales tax on this merchandise.

Salesman Loses Suit

According to a modern court persons who sell interstate merchandise intrastate are not within provisions of the Fair Labor Standards Act.

For illustration, in Walling v. Block, 139 Fed. Rep. 268, it was

shown that an employee sold to retail customers merchandise which had been received from outside the state and stored in a warehouse for distribution. The court sued to recover wages under the Fair Labor Standards Act, but the higher court refused to hold the employer liable, saying:

"The provisions of the Act expressly make its application dependent upon the character of the employees' activities."

LEGAL

Questions and Answers

... The Legal Editor will answer legal questions on all subjects covered by D and W. Send him your problems, care of this magazine. There will be no charge to subscribers for this service. Publication of inquiries and Mr. Parker's replies give worthwhile information to industry generally

Taxes in Storage

Question: Recently a shipment was made from a point in Maine to Portland, Me., for storage "in transit." Now, the city authorities intend to tax this merchandise. Can they do so, in view of the fact that the goods are to be shipped outside the state?
F. H. Leggett and Co.

Answer: Many higher court cases are on record which establish the law, as follows: If the goods are stopped as a part of the interstate transportation neither the city nor state can tax the goods in Maine. However, it must

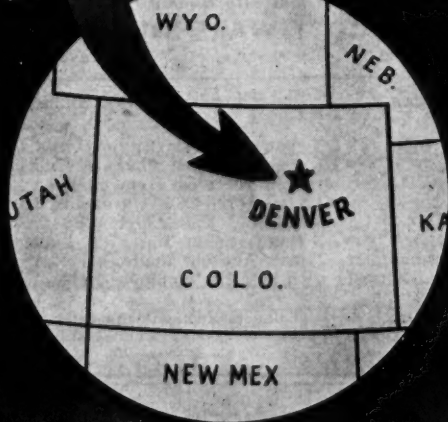
be shown that the stoppage was only incidental to the interstate transportation. Therefore, if the goods are stopped for purposes of sorting, repacking, or listing they are taxable by the city or state authorities. If, however, for necessary purposes, as in case of a wreck of the carrier, or for transfer from one carrier to another, or storage in a warehouse to protect the goods while a transfer is being made, such goods are temporarily stopped in transit and neither the city nor the state may tax the goods.

Therefore, it is quite apparent that the stoppage must be in direct inter-

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state commerce in order to avoid local taxation.

For example, assume that the goods are shipped from one state to a warehouse in another state for storage awaiting orders for delivery to customers in the state in which the warehouse is situated. Under these conditions the goods are taxable by the state while in storage. On the other hand, assume that goods are placed in a warehouse for protection and storage while awaiting transportation connections. Under these circumstances the goods are not taxable by the city or state in which the warehouse is situated, and which is a part of the interstate transportation. From a legal standpoint, goods in a warehouse are not subject to local taxation if it can be shown that there is no substantial "break" in interstate transportation of the merchandise. The fact that goods are stored in a warehouse merely while awaiting, at the convenience of the shipper, carriage into another state will not avoid legality of local taxation.

Denies Receipt

Question: We delivered a shipment to a consignee and obtained a signature, which did not include the firm name. The consignee denies receiving the shipment. We sent our driver to his place of business with the signed receipt, to identify the signor. He could not do this but had another employee state that he remembered the shipment being received. This employee

was spoken to, in a foreign language, by the consignee and then he denied all knowledge of shipment. The shipper now is claiming remuneration for full value of shipment. Is there anything we can do in this matter? Any advice that you can give will be deeply appreciated. **Henry G. Williamson Transportation.**

Answer: Any form of signature is valid, whether pencil or pen written, or mere initials made by a typewriter, or otherwise, providing the person who signed the instrument had proper and legal authority to represent his employer. Such legal authority may be proven by testimony that the employer was in the habit of considering himself obligated by the employee's signature to contracts and other instruments, or that the employee was manager of a department of the business.

Therefore, you may win the suit by proving by hand writing experts, or other evidence, that the employee actually signed the receipt and that he had legal authority to bind his employer. Also, although the employee had no legal authority to sign the receipt you may win the suit upon proof that his employer accepted and appropriated the shipment.

Whether or not you can prove that the employee signed the receipt the jury may decide from testimony given by other employees that the employer appropriated the merchandise, under which circumstances you will be relieved from liability.

Valid Contract?

Question: Some years ago we began thinking of purchasing some equipment. Later we signed a contract to buy the equipment. The corporation's president also signed the contract. Before delivery we got in touch with the corporation's sales manager and he cancelled the contract for us. Now, a suit is filed by the corporation to get damages from us. Is the agreement made by the sales manager valid? **St. Louis Corp.**

Answer: Modern higher courts consistently hold that no corporation employee, including a sales manager, may make a valid contract, nor cancel a previously made contract, without proper and legal authority either of the president of the corporation, or its directors.

See *Company, Inc., v. Williams*, 14 So. (2d) 319, reported June, 1943. In this case it was disclosed that a company filed suit against a purchaser to recover \$1,012 with legal interest, which amount represented a balance due for services rendered under the provisions of a written contract. This contract was signed by the president of the company. The purchaser testified that he was relieved of responsibility because later he got in touch with the sales manager of the company who agreed to release him from all obligations of the contract.

However, the higher court held the purchaser fully liable on the contract and said:

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"There was no evidence upon which to predicate the fact that Gimbert (sales manager) either had the authority to release the defendant (purchaser) or that, as a matter of fact, he ever intended to do so."

On the other hand, it is possible that you may win the suit if you can prove that in the past it was customary for the corporation's president to approve, or consider as valid, agreements made by the sales manager. Testimony of this nature will convince the court that the sales manager was accepted by the corporation as its "general" agent fully authorized to contract for the corporation.

Fair Labor Standards

Question: We manufacture merchandise which we sell and deliver to purchasers who ship it to their customers outside the state. Can we be held responsible for failure to pay certain of our employees wages specified by the Fair Labor Standards Act? Fairbank's Manufacturing Co.

Answer: An important clause in the Fair Labor Standards Act is that every employer "shall pay to each of his employees who is engaged in interstate commerce or in the production of goods for interstate commerce wages at the following rates . . ."

In Hansen v. Salinas Valley Ice Co., 144 Pac. (2d) 896, reported Feb., 1944, a company which was engaged in the manufacture of commercial ice failed to pay certain employees wages specified by the Fair Labor Standards Act.

They hauled ice from the ice plant to the buyers' packing sheds from where the ice was put in the tops of the freight cars into which crates of vegetables were loaded. Ninety-five per cent of these vegetables were shipped to consumers outside of the state.

In holding the employees entitled to a recovery, the higher court said:

"The respondents (ice company) come under the provisions of the Fair Labor Standards Act because they are engaged in the production of goods for commerce, and not because they are actually engaged in interstate commerce."

Therefore, it is quite apparent that if the merchandise which you manufacture can be directly connected with interstate commerce, you are obligated to pay wages specified by the Act.

Liability

Question: We have a suit on our hands filed by a man who was injured while he was riding free and for accommodation in one of our vehicles. In our state a law states that automobile owners cannot be held liable for injuries to guests who ride in automobiles. Please cite law to us. Allied Transportation and Warehouse.

Answer: In many states the laws prohibit "guests" in automobiles to sue and recover damages from the owner of the vehicle. If no state law of this nature is effective a "guest" always may sue and recover damages from the operator or owner of the automobile whose negligence resulted in the injury.

Modern higher courts consistently

hold that a person riding in a motor vehicle is a "guest" if his carriage confers only a benefit upon himself and no benefit upon the owner or operator.

In Van Auker v. Steckley's Co., 8 N. W. (2d) 451, it was shown that a company official directed one of its customers to invite a farmer to go with the company's field supervisor and dealer to the state fair in the company's automobile. They got into the automobile and started out to gather samples to take to the state fair. A collision occurred and the farmer was killed. His dependents sued the company to recover heavy damages.

A state law provides that a "guest" cannot sue and recover damages from an automobile owner for injuries negligently caused by the owner of the automobile, or his representative. Therefore, the question presented the court was whether the farmer was a legal guest.

It is important to know that the higher court held that the farmer was not a legal guest and in holding the company liable in damages, said:

"A person riding in a motor vehicle is a guest if his carriage confers only a benefit upon himself and no benefit upon the owner or operator except such as is incidental to hospitality, social relations, companionship, or the like, as a mere gratuity."

However, in your case the man who was riding for mere accommodations was a legal guest and you are not liable in damages in view of the protective state law.

Loading and Unloading Legally Defined

The Ohio Supreme Court in a case from Cuyahoga County (Cleveland), recently handed down a decision in which it defines loading and unloading, in a verdict affecting insurers. The court said:

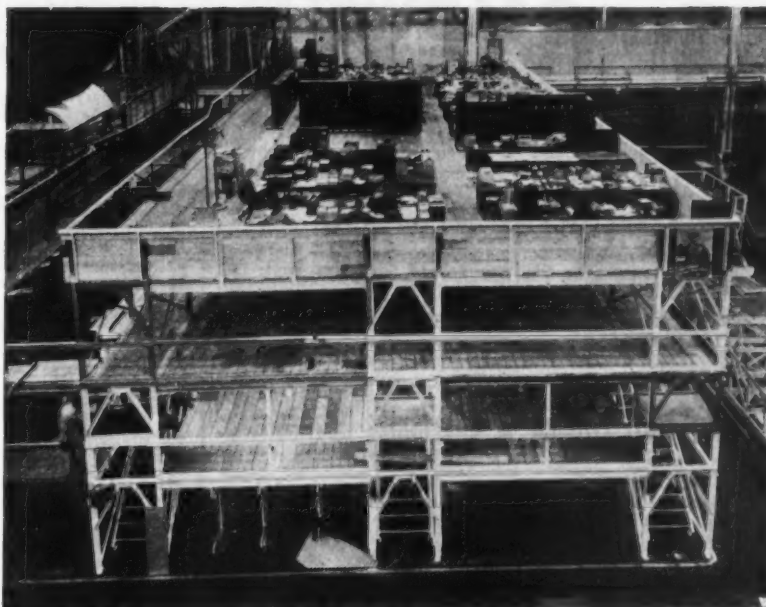
"Loading, as used in a policy of indemnity insurance, begins at the time the insured or his agents or servants connected with the truck, receive the article and, as part of a continuing operation, place it upon the truck; and unloading ceases when the article is taken from the truck by such employees, and as part of a continuing operation, is delivered to the customer, or to the place designated for delivery."

In rendering its decision, the court said that when an insurer drafts and issues an automobile indemnity policy, providing therein for insurance against liability resulting from injury to or destruction of property, arising out of the ownership, maintenance or use of an automobile including loading and unloading, but fails to define in the policy what shall constitute "loading and unloading," such phrase is ambiguous and will be given the construction most favorable to the insured. (Kline)

Exide Wins 4th Star

The Electric Storage Battery Co., Philadelphia, Pa., has been awarded another star, the fourth, for its Army-Navy "E" pennant.

Floor Space Shortage



One of the emergency offices at The Glenn L. Martin Co., Baltimore, Md., improvised to meet a critical floor space shortage. The new offices are now tenanted by clerical workers and light manufacturing groups. First to move in on the top deck shown here was a group from the timekeeping department. Others followed to occupy the lower decks.

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Possibilities of Great Lakes—Overseas Trade

(Continued from page 15)

pate in this trade. The war interrupted the established services and prevented the setting up of others. Had it not occurred, a large tonnage would now be moving to and from Europe by these companies, all of them foreign.

Docket No. 513

This Great Lakes-European trade, which climbed to flourishing proportions between 1925 and 1940, has been completely disrupted by the war. Had the war not intervened, this trade would undoubtedly be more active than ever, in view of the decision of the U. S. Maritime Commission in Docket No. 513, which restrained the North Atlantic steamship lines in their efforts to force the import and export traffic of the Great Lakes to move exclusively through North Atlantic ports.

Every city on the lakes owes a debt of gratitude to the Maritime Commission for its decision in this case, according to H. C. Brockel, municipal port director at Milwaukee, Wis., and secretary of the Great Lakes Harbors Assn.

Up to 1940

"Up to 1940, the overseas services

operated under the handicap of the conference contract controls imposed on exporters of the Midwest by the North Atlantic Steamship conferences," he explained. "The Docket No. 513 decision removed the shackles from our foreign trade, but the war came along and the trade disappeared.

"When those ships return, whether under American flag or foreign flag, they will serve exporters who up to this time have been under the North Atlantic contract control."

Commercial and industrial interests of the Middle West, Mr. Brockel believes, would welcome the services of an American fleet operating to foreign ports, not only for reasons of sentiment and national prestige, but because the transportation resources of this area should be utilized on the most economical basis for the task of post-war reconstruction and rehabilitation. To this end, he says, direct lakes-ocean services should be established.

"The commercial necessity for such service has been demonstrated, and an infinitely greater opportunity will be available through the effect of the Docket No. 513 decision. Foreign flag domination of this important trade route is not in the national interest," he declared.

The Musham Report

H. A. Musham, Chicago, naval architect, who in 1938 prepared a comprehensive report on a direct all-water general freight service by way of the St. Lawrence River between the ports of the Great Lakes and those of northwestern Europe for Corydon and Ohlrich, Inc., Chicago, importers, stated that a study of this report, which included preliminary plans for a fleet of eight ships for the proposed service, showed conclusively that it was feasible and eminently practicable, and would be of great value to the importers and exporters of the Great Lakes and the Mississippi Valley, because of the savings in freight costs that would be in effect.

"While this report covered the pre-war years," Mr. Musham said, "it is just as pertinent today as it was then. The data that it contains will apply for the post-war years just as it did for the pre-war."

The report has been revised and emphasizes the extension of such a service in connection with the internal waterway system, thus bringing salt water closer to the inland ports of the great rivers.

Maritime Commission

Rear Admiral H. L. Vickery, vice chairman, Maritime Commission, recently told Great Lakes shipping interests, "The Commission has had a number of suggestions recently to the effect that Government assistance should be provided for the maintenance of a few vessels to trade down the St. Lawrence to Montreal.

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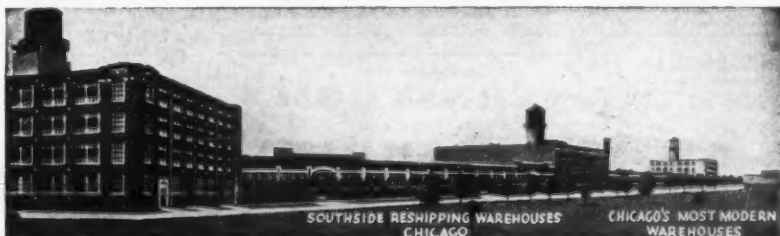
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D and W, June, 1944—59

"It has also been suggested that we declare the Great Lakes an essential trade route and subsidize a small line or two for operation between Lake ports and overseas markets.

"The small foreign lines were operating to the Great Lakes before the war and foreign tramps were coming into your ports with some frequency. The Post-War Planning Committee, which has been set up by the Commission, is now making a study of these matters and I am hopeful that we will have something to report shortly.

Europe and the Indies

"The foreign trade area most often associated with Great Lakes shipping is Europe. There has also been considerable discussion about the establishment of a route to the West Indies. Both of these suggestions will be gone into thoroughly by the Maritime Commission....

"Foreign trade on the Great Lakes is already a considerable item in our interchange of goods with other countries. Most of it, of course, is accounted for by Canada, but increasing amounts have been going overseas. Foreign traffic on the Lakes for the last ten years has fluctuated between ten million and twenty million tons a year, amounting on the average to 15 or 20 per cent of that carried in domestic service," said Admiral Vickery.

Shipbuilding Industry

The greatly expanded shipbuilding industry on the Great Lakes is also



vitaly interested in the development of an American flag shipping service to foreign countries. At present there are 14 shipyards on the lakes filling orders of the Maritime Commission, and employing more than 22,500 persons, as compared with 4,000 workers in normal times. Moreover, for all the shipyards on the lakes, employees total around 68,000 persons.

Shipbuilders have pointed out that one of the principal obstacles to increased trade on the Great Lakes is that the operating season lasts only seven or eight months of the year, because of ice conditions, while overhead and writeoff costs for twelve months must be carried.

New Ship Design

If vessels could be designed to operate on the lakes during the open season and during the winter in coastal and foreign trade, this problem would be simplified. Some ex-

perimental trips and much investigation have been completed on the possibilities of self-propelled combination motorships for inland waterway, lakes, and coastal service. The improvement in river channels and in hull and propulsion design is expected to help develop this field.

Before the war, considerable progress was made, in spite of the depression, in the design and construction of ships for the lakes-to-coast route through the New York barge canal. The great development in diesel engines in the smaller power for ships of this class, together with light-weight welded hulls, made it possible to design, build, and operate ships profitably in this trade. With the expected expansion of this type of construction after the war, much of the export goods from the Middle West may again reach Atlantic coast ports via the New York barge canal.

The continuation of the lakes shipbuilding industry after the war therefore, depends not only on the gradual replacement of the bulk carrier fleet by ships of modern design, and the building of a fast package freight fleet, but also on the design and construction of ships for the lakes-to-coast and foreign services.

St. Lawrence Waterway

Meanwhile, recent events show a marked trend toward renewal of interest in the St. Lawrence Waterway and Power Project, with the possibility of an early resurgence of national

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activity in support of the Aiken Bill, now pending in Congress.

President Roosevelt has written to Senator George D. Aiken, Putney, Vt., calling for a "non-partisan effort" in Congress to press for the passage of his St. Lawrence project bill. In mid-March, both houses of the New York Legislature adopted resolutions memorializing the President and Congress to pass the pending Aiken Bill. It is understood that Governor Thomas A. Dewey was favorable to the passage of the resolutions.

The St. Lawrence project would fulfill the growing desire of Great Lakes interests to establish an American-flag shipping service to serve foreign ports, thus increasing direct trade and personal relationships with other countries.

Real Opportunity

Most of the foreign-owned ships operating directly between the lakes and European ports have been destroyed during the war, and shipbuilders on the lakes feel that a real opportunity exists for American operators to enter this field, if building and operating subsidies to equalize

American and foreign costs can be applied to this service.

Supporters of this program point out that in addition to the employment of Americans in the construction and operation of these ships, having them operated by American crews means that we will have the officers and men on these ships as salesmen and contact men in our foreign trade.

S. F. Port Facilities Called Inefficient

Shipping people in San Francisco are concerned over what they frankly call "inefficient" handling of port facilities in San Francisco, as a result of which incoming vessels sometimes have to be berthed "with a shoe horn" if, indeed, they can find accommodation. Main reason for this situation is said to be the fact that often as much as a quarter of the available berthing space is occupied by vessels undergoing repairs.

At the same time, high officials of the U. S. Navy are quoted as saying that "before very long" intensified war operations in the Pacific may

make it necessary to divert much shipping from overcrowded Pacific Coast ports to Gulf and Atlantic Coast ports and the Panama Canal.

Shipping people are asking why temporary berthing facilities cannot be found for ships undergoing repairs, in order that the piers may be open for cargo carriers ready to load and be on their way. They claim the situation is responsible for serious delays. (Gidlow)

Ship Suppliers Assn.

Articles of incorporation have been issued to a newly formed organization named the Los Angeles-Long Beach Harbors Ship Suppliers Assn., membership in which is composed of ship chandlers and general suppliers of marine equipment in the twin-port area. Directors are A. R. Kittle, C. F. Crouthamel and S. L. Kuykendall, all of San Pedro, Cal. (Herr)

179,208,360 Shipments

In 1943, by actual count, Railway Express Agency handled 179,208,360 shipments, 14,183,678 more than in 1942, it reports.

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Hoist (Air Cylinder)

(Continued from page 19)

reeving two or more parts of the hoisting rope.

Application—This type of hoist has been used extensively in foundries where certain types of air hoists are especially adapted for handling molds, and also in quarries, stone-cutting plants, etc., where compressed air supply is available. They have been used in drop forge shops and on many industrial operations where the fire hazard has rendered the use of other types of hoist equipment undesirable. This is particularly true in some chemical plants and similar industries.

Unloader (Traveling Cantilever)

(Continued from page 19)

primarily for handling bulk materials. The support section spans two or more tracks so as to permit unloading from the vessel directly to cars. The cantilever section projecting out over the vessel is hinged so it can be raised up to permit the berthing of ships. The bucket hoist and control mechanism ride on a bridge trolley so that the operator is directly over the hold when lowering the bucket. These buckets are of large capacity, from 7½ to 15 tons. After picking up a load, they travel the full distance of

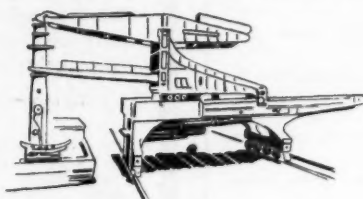
the boom to the point of discharge, returning for the next load. The gantry section permits the structure to travel lengthwise of the wharf. The complete movement is handled by one bucket.

Application—This type of equipment is particularly applicable for unloading and distribution to a bulk storage area adjacent to a wharf, as well as for unloading material from vessels and loading it into railroad cars. These units are used extensively at Great Lake ports for handling iron ore, copper, coal, limestone, coke, sand and similar materials.

Hulett Unloader

Definition—A piece of equipment designed primarily for unloading bulk materials from vessels to railroad cars or stock piles.

Description—The Hulett unloader is a specially designed piece of equipment used extensively, at ports on the



Hulett Unloader

Great Lakes in the United States, for unloading ore from vessels, and for elevating and conveying it to railroad

cars or storage piles. This machine consists of a main framework mounted on trucks; it travels on a runway laid on the wharf and spans several tracks. The carriage or trolley which transverses the bridge structure is equipped with a balanced walking beam and a bucket of the grab type, secured to the lower end of a rigid leg pendant from the outer end of the walking beam. The bucket is moved vertically by the action of the walking beam, and horizontally by transversing the trolley on the bridge. The bucket is arranged so that it may be rotated in a complete circle which permits it to turn in any direction to gather a load. The operating mechanism for the bucket is installed in the vertical leg on which it is suspended and the operator is located just above the bucket in a cab built within the leg structure. This puts him at a point where he can see the load being picked up. After the bucket is filled, it is hoisted by means of the walking beam hoisting mechanism, which is installed on the rear end of the beam, where it serves as a counterbalance. When the bucket is lifted free of the vessel's hatch, it then travels back on the bridge, so that it is brought over a hopper located in the main framework, and the contents of the bucket are discharged into the hopper. The bucket then returns to the vessel for another load. Most of these machines are equipped with buckets of 15 tons capacity, and will handle from 500 to 1000 lb. per hour. After the material is dumped in the hopper, it is dis-

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charged into a larry which has been brought to a point underneath the discharge gates of the hopper. When the larry is filled, it is moved along the bridge to the desired point, and the gates of the larry hopper are opened, discharging the material into railroad cars. If a car is not available, the larry can move to the rear cantilever of the bridge, and discharge its contents into a temporary storage pile. Usually, the material is moved from this storage pile for shipment, or for storage elsewhere, by means of an ore bridge situated at the rear of the unloader, which is a separate piece of equipment. The larry hopper on the Hulett unloader is equipped with scales, so that the material may be weighed as it passes through, thus enabling an accurate record to be kept of the amount of material loaded into railroad cars during the unloading operation. Two operators are required for one of these machines. One is placed in the bucket leg directly over the bucket, and controls its raising and lowering, the travel of the trolley, and the movement of the machine from one hatch to another. The other operator is stationed in a cab on the larry and controls its movement, the operation of the gates, and the weighing of the material.

Application—This equipment is used chiefly at ports on the Great Lakes for unloading coal, ore, limestone and other bulk materials from the holds of vessels, for weighing and discharging such materials directly into railroad cars for trans-shipment, or to temporary stock piles to be

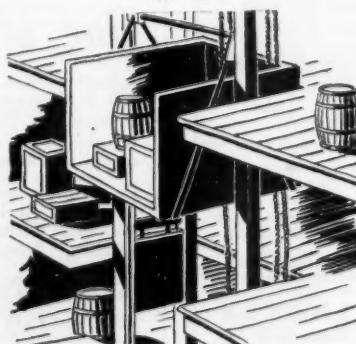
picked up by other equipment for distribution into storage, thus making this piece of equipment both an unloader and a loader of bulk materials.

Elevator (Freight)

Definition—A car with counter-weight, hoisting cable, sheaves, controllers, drum and motive power for lifting and lowering of materials or passengers.

Description—Freight elevators are built in a wide range of capacities and with different size cars or hoisting platforms, and have been built with various types of motive power, such as steam, steam hydraulic, pneumatic,

Freight Elevator



full hydraulic and electric motor units. Steam driven elevators are now out of date. Pneumatic and hydraulic elevators are in the minority. Electrically driven elevators now are most extensively used. The reason for this is the complete control of the car movement when activated by electric power. This permits the use of limit switches, up and down travel, the application of leveling devices to bring the car at the proper level for discharging at different floors, compensating controls to keep the car level as loads are placed on the car and many other similar safety devices. A freight elevator should be given careful consideration as to the width and length of the car, the proper capacity, etc., so it may be able to service the various floors with materials for storage or production, but also for raising or lowering materials handling equipment to different floors for operation. It is better to have the car larger than necessary, rather than smaller. Elevators can either be of the push-button control type which is semi-automatic, or controlled by an operator riding in the car or located alongside or above the elevator shaft for remote control. Standard elevators are generally equipped with all types of safety devices, and are inspected regularly under local regulations.

Application—Freight elevators are generally used in multi-storied buildings, although they can be installed for short movements between different floor levels. Care should be taken to see that the proper auxiliary materials handling equipment is furnished

so as to reduce the time required for loading and unloading elevator cars, as the speed of handling is in direct ratio to the number of loads that can be raised or lowered, and this is governed more by the speed of loading and unloading than by the speed of travel of the elevator. Freight elevators can handle a wide variety of materials, but they must be in packages or containers, and not loose bulk material.

Albuquerque Firm New AWI Member

Benton Van & Storage Co., 110 East New York Ave., Albuquerque, N. M., has become a member of Associated Warehouses, Inc., Clyde E. Phelps, executive secretary of AWI, announced last month in Chicago. Benton Van & Storage Co. was formerly the C. I. Gaines Transfer & Storage.

"It is situated in the center of the state of New Mexico," Mr. Phelps states. "The southwest is a territory that is assuming greater economic importance. In post-war distribution, Albuquerque will play an important part in storage-in-transit and in redistribution, both on east and west traffic, and, also, in freight going to and from Mexico."

Army-Navy "E"

General Controls Co., Glendale, Cal., has been awarded the Army-Navy "E" for excellence in producing automatic controls for aircraft and ordnance.

"M" Award

The Maritime "M" award for outstanding production achievement has been awarded to the Lynn River Gear Works of the General Electric Company, Lynn, Mass., the Maritime Com-

mission's Board of Production Awards has announced. The General Electric Company's Lynn River Gear Works has been cited for outstanding achievement in the manufacture and delivery of reduction gears for the Victory Fleet.

transit. Investigation can then be made and remedial measures applied. "We, as shippers, must continue to load and unload cars promptly and to capacity where possible," he advises, "so that they can be released for loading to someone else who perhaps badly needs them. Debris, packing material and refuse incident to the loading should be removed before empty cars are released to the carriers. The saving of car days should be uppermost in the minds of all. Shippers should also check their routings so as to avoid unwarranted circuitry in routing."

He directs attention, also, to a practice said to be indulged in by some governmental agencies as well as civilian shippers, of failing to furnish rail carriers with the billing instructions promptly after cars are loaded. He refers to instances where cars, after being loaded, are held for several days awaiting inspection of the contents. "This practice must be avoided," Mr. Peters says. (Slawson.)

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Carbon Dioxide Fire Fighting System Installed at Naval Storage Depot

(Continued from page 20)

valves, ringing the alarm gong, shutting off the fans and louvers, and starting the time-delay mechanism which allows 35 seconds to elapse before seals are cut and the gas discharged so that any workers present will have an opportunity to leave the room.

Carbon dioxide, while non-poisonous in itself, prevents the required amount of oxygen from reaching the lungs, just as it prevents it from feeding the fire, and a person therefore cannot long retain consciousness in a room filled with the gas. The warning signal sounds continuously during the 35-second interval before the gas is released.

Two break-glass remote control pull boxes are provided for each space, located at the exterior doors on either side. If a blaze should be detected before the heat actuators operate, a pull of the handle would set off the system by means of a cable running back to the valve frame covering that space.

Expanding Gas

The fire-extinguishing system employs carbon dioxide under high pressure—850 lb. p.s.i. at 70 deg. F.—

which means that the gas is delivered through the piping and all the nozzles in a room simultaneously, the tremendous force of expansion of the gas upon release doing away with the necessity for a pump or any other extraneous force. It can readily be understood that carbon dioxide pouring at a rapid rate from some 80 nozzles evenly spaced about a single room would reduce the percentage of oxygen in the air within a few seconds to the point below which fire must die.

A reduction of the normal 21 per cent content to 16 or 15 per cent suffices in the case of ordinary flammable liquids, and this high-pressure system effects such a reduction in the shortest possible time. The entire 7 tons of gas are discharged within approximately one minute.

Passage of the gas through the distributing pipes operates the pressure trips controlling the self-closing doors which cause them to shut, confining the fire to that room, preventing fanning of the flames and maintaining the concentration of gas inside.

By means of this type of built-in extinguishing system fires occurring in large spaces in which flammable

liquids are stored can be quickly smothered, without damage by the extinguishing agent to any of the materials with which it comes into contact.

Gas Leaves No Mess

Carbon dioxide, a chemically inert gas, does not combine with the products of combustion even in the presence of heat, and it leaves absolutely no residue or mess to clean up. It does not deteriorate with time, or freeze in any weather, and it can cause no corrosion. This system needs neither pumping machinery nor refrigerating equipment, the only attention required being the recharging of the cylinders after use. The storing of the gas in highly compressed form in cylinders obviates the need for large storage space, and their placement is a matter of convenience. In the Aviation Material storehouse, the cylinders and routing valve frames are housed in a maintenance room about 25 x 33 ft., situated approximately midway along one of the walls of the building.

Stars for Mack

Second star additions to the "E" flags of the three Mack Trucks, Inc., plants, brought the firm's wartime production awards to nine Army and Navy citations within the past year and a half. The awards were made at brief ceremonies recently in the Plainfield and New Brunswick, N. J., and Allentown, Pa., plants.

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Placed On Platform Ready For DeliveryConsign Shipments Via N.Y.C.
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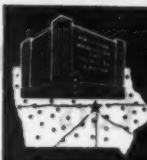
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DAILY SERVICE IN EVERY DIRECTION

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50 years' warehousing nationally known accounts
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Fresh Details on

More Efficient Handling of Freight Cars

(Continued from page 21)

Estimating Time Enroute

This matter of estimating the time enroute is now a very live subject in the office of the Chief of Transportation, and it is quite possible that some important developments in the way of regional estimates on time enroute will result. Certainly the time enroute from various points to Jersey City cannot be translated into miles per day that could be used generally throughout the country. This is a subject that requires some study and analysis, and cannot be treated in this report.

This Daily Situation Report is becoming more valuable each day in planning our work ahead. With an ever increasing turnover of supplies and the ever growing quantities handled, the necessity for planning further ahead forces itself upon us with heavy impact. You've got to take advantage of every available fact, and gather and collate these facts in form where they can be used readily and quickly.

The form of our Daily Situation Report is what we deem to be most

nearly in accord with our requirements. It is a flexible affair and can be prepared in any desired shape for convenience, always carrying the facts.

Use of Report

Here are a few ways in which the report is used by our Stock Control Division:

Incoming Property Section directs shipments to proper locations when the Cars Enroute Sheet shows any departure from the official warehouse plan.

Subsistence Section gets advance information on items for filler stocks, if cars are in yard, in which event no shortages are reported. The enroute information is used for diversions to ports on rush shipments. Otherwise, cars would arrive and then have to be reconsigned to the new destination, causing additional expense and loss of time, both to shipment and car.

The General Supplies and Clothing Sections use the same information for stock availability.

Storage Division uses the report to pre-plan space allotment and labor requirements.

Congestion Probabilities

It is utilized to determine congestion probabilities. If car arrivals are in excess of planned space other space must be provided, and placement orders must be changed correspondingly. If space cannot be provided, and cars are enroute, request for diversion to a sub-depot or other installations will be made. Every possible effort is made to divert cars while still enroute, because reconsignments and back hauls are expensive and time wasters.

One section of the report is devoted to shipments of overseas sales items, moving inbound on commercial bills of lading. This enables the Overseas Sales Officer to keep informed on these movements and is a great aid in handling his problems.

The utility of this report for all divisions of the depot is varied, and there are so many purposes it can serve we cannot begin to enumerate all of them.

The greatest effectiveness of the report is secured only by the most prompt action on the part of all Divisions and individuals concerned. There must be a full understanding of the implications and possibilities involved in the information presented; and immediate, coordinate, action must be taken.

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Private siding CM&StP with full switching reciprocity—
CRI—CGW—M&StL—CNW.
60,000 Sq. Ft. Dry Storage Space.
SPECIALIZE IN POOL CAR DISTRIBUTION with
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Private Sidings,
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Established 1880

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Weekly Meetings

Once a week we have a meeting of officers of the Stock Control, Storage, and Transportation Divisions, to discuss related problems and to plan co-ordinated effort. At these meetings, among other things, we often explore the possibilities of the report, and learn something new each time. But the real education is in the actual operation, where we find that the facts it carries can be used in many ways. Some of our young officers are quite enthusiastic about it, and one, at least, carries it in his pocket throughout the day and consults it from time to time.

The point of all this is that our men work as a team for a single purpose. It is all one job of production—procuring, transporting, storing, and shipping. Each division, and each individual, have a part to play, and when they play together they win the game.

Time is the most vital element in the whole situation. You have heard it said that "time is money." But I say to you that, in this war, time is life. A waste of time in getting a shipment through may mean a waste of life on the firing front. We must save time, and thereby save lives!

Tobacco Whses. Leased

Nearly one-fourth of the 380,000 sq. ft. of floor space in the Maryland State Tobacco Warehouses on Conway St. at Charles St., Baltimore, has been leased to the Bethlehem-Fairfield

**New Chemicalized Fruit Tissue Reported
As Being Beneficial to Citrus Fruits**

The Diphenyl Wrap, a scientific-ally chemicalized fruit tissue which is said to possess elements beneficial to citrus fruits, has been gaining ground in the citrus industry, according to "The New York Packer," in spite of the fact its full availability is not yet possible because of heavy demands made on paper manufacturers for a wide variety of new paper uses important to war.

"Behind the evolution of this wrap," "The Packer" states, "is a story of eight years' research, patience, disappointments and finally assured success in the laboratories of Crown Zellerbach, Camas, Wash., and in test laboratories, and test under actual shipping and storing conditions in widely separated regions of the United States.

"Originators of the Hartman Wrap, which halted development of cluster rot in d'Anjou pears under shipping and storage conditions by treating the fruit tissues in copperized solution, research chemists of Crown Zeller-

bach were appealed to more than nine years ago to set their skills and energies developing tissue that would arrest blue and green molds which attack citrus under certain conditions. The result was Diphenyl-treated tissue which was not released as a perfected and a finished product until several years of experiment and development had proved its values to citrus.

"Used sparingly at first, usefulness of the wrap increased in shipper and wholesaler regard to the point where more than 1,000 cars of Diphenyl wrapped fruit were shipped in a single season with results that were consistent with every advantage claimed.

"Claimed for the wrap are these qualities: (1) To arrest and isolate decay by exercising control over blue and green mold. (2) By controlling to definite minimum, withering, shriveling fruits in storage. (3) Preservation of original 'tree-freshness' and protection of natural firmness and appearance of quality fruits."

Industrial Clothing

A catalog section on its recently introduced line of industrial clothing coated with rubber or rubber-like materials has been published by The B. F. Goodrich Co., Akron, O.

Cotton Warehouse Assn. Moves to Memphis

National Cotton Compress and Cotton Warehouse Assn. decided at its recent meeting to move its general offices to Memphis, Tenn. T. E. Fletcher, Cordele, Ga., newly elected president, has announced. The office, previously in New Orleans, is opening in the Shrine Bldg., Memphis, S. Front and Monroe, Dudley Foy, executive secretary, is in charge. The association was organized in 1936. (Grissam)

Warehouse Expansion In Charlotte, N. C.

Immediate construction of a four-story, \$75,000 storage building of reinforced concrete and brick, adding a third more space to the present plant, has been announced by John L. Wilkinson, president, the Carolina Transfer and Storage Co., Charlotte, N. C. It is the first building operation of that magnitude in Charlotte permitted private owners by the federal authorities since the war began.

The necessity for storage space for the possessions of soldiers and unsettled families engaged in war production caused the War Production Board to authorize the work, it is said.

The building, completely fireproof, will provide 24,000 sq. ft. of new floor space, increasing the present 80,000 sq. ft. to 104,000.

A Handy, Timely Tip

To patch a hole in wire screens is easier than most people realize. Apply the following simple method which has been used successfully by this writer many times.

Cut off a patch of ample size for covering the hole. Then as indicated in Fig. 1, strip some of the wires from all of the edges. This leaves wires projecting out in all four directions as shown in the sketch. Then bend

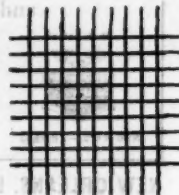


FIG. 1
Strip off wires
like this.

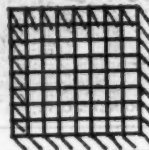


FIG. 2
Then bend
like this

the ends perfectly square with the plane of the screen as shown in Fig. 2. Next place the patch over the hole, push the projecting ends through the meshes of the screen being patched and finally clinch the ends over. Hold a board on one side of the screen and hammer the edges of the patch and it will lie perfectly flat.

The patch will hold surprisingly well. In fact the writer has patched screens in this way several years ago and the patches are still there.—W. F. Schaphorst, M.E.

Hearing July 10 On N. C. Rate Case

The North Carolina Utilities Commission last month issued an order suspending the scale of increased rates for the hauling of baled cotton, recently proposed by the N. C. Truck Owners Assn. and set July 10 as the date for a formal hearing of the matter. The new rates contain a uniform increase of 10c. per bale.

Meanwhile, the commission prepared to investigate the allegation of the truckers that increased operating costs require increased rates. The carriers will be required to submit to the commission financial data on the cost of performing such services.

The commission's action is the result of the truckers' and protestants' inability to reach an agreement.

Protestants of the new rates are the N. C. Traffic League of Charlotte; the N. C. Cotton Mfrs. Assn. of Atlanta; the Proximity Mills of Greensboro; the Cannon Mills of Kannapolis; the South Atlantic Cotton Assn. of Atlanta; the N. C. Cotton Cooperative Assn. of Raleigh; and McKiver and Pell of Charlotte. (Hall)

Buys Site

The Crabtree Transfer and Storage Co. has purchased the old Southern Hotel property on Market St. opposite the Terminal Station, Chattanooga, Tenn., for construction of a new building in the postwar period. W. E. Thompson is president and manager.

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New Orleans Merchandise Warehousemen's Ass'n.

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For Details See Directory Issue
Distribution and Warehousing

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Air Cargo Equipment . . .

(Continued from page 24)

be to increase the cargo section of the plane as the volume of cargo business justifies it. All passenger planes will continue to carry some cargo, but the amount will depend on the nature of the route and the cargo possibilities on the route. The ratio of cargo to passengers will vary not only by routes but with schedule distribution as well.

Conflicting Operations

Also prevalent is the belief that passenger service must remain the prime consideration of airline transportation and that cargo must not be permitted to interfere with the satisfactory performance of passenger service. This belief led one respondent to conclude that any rate differential can be better applied to the cargo than to the passenger.

Of those favoring entire separation of cargo and passengers some pointed out that there is a fundamental conflict between cargo and passenger operations. The cargo manager will want to hold planes for last minute cargo whereas the passenger manager will want the plane to leave strictly on schedule. Also, it was pointed out that the American public will not be likely to accept the type of modified passenger service that cargo planned

schedules and facilities will offer. An airline, expecting to have an all-cargo service immediately, plans to maintain a satisfactory load factor by strategic scheduling of flights, active solicitation and development of balancing traffic, and the use of commodity rates.

Weight Control

The necessity of precision weight control in the loading of aircraft prompted an inquiry as to the payload sacrifice that the airlines will be willing to make in order to reduce the necessity of exact loading of aircraft with respect to travel of the center of gravity. Without exception it is believed desirable to increase the limits of the center of gravity travel, but there is little inclination to sacrifice payload to this end. It is believed that some concession can be made but that reduction of weight control should be accomplished by some other means than reduced payload.

Attention was given to the importance of payload in determining total revenue. Any sacrifice in payload will have to be examined closely to see if gains made possible by simplified loading will balance the loss in payload. Every advantage will be worth some penalty, but the question as to

the amount of penalty will have to be answered in terms of the probable increase in operating expense or the aerodynamic penalty involved.

Automatic Distribution

Airlines seem to be optimistic over the prospect that future designs will eliminate this undesirable feature without placing a penalty on payload. At the same time they are careful to specify that sacrifice of performance characteristics will be as undesirable as sacrificing payload. One respondent believes that design will progress to the point where no more consideration will need to be given to weight distribution in airplanes than now given to trucks or other cargo conveyances. Another airline engineer enlarging upon this possibility cited instances of inadvertent loading of military craft placing the center of gravity outside the prescribed limits with no ill effect.

Automatic weight distribution by means of a movable platform is one suggestion as to a possible design feature that might provide a workable solution of this problem, and another is to change the ratio of the tail length to chord in some present designs. Certain models of transport aircraft now in military use were cited as having a reasonably wide range of center of gravity travel which can be further developed in post-war aircraft.

Providing greater travel of the cen-

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ter of gravity is entirely a matter of individual airplane design and must be studied so as to bring about the most suitable compromise between center of gravity, weight, and performance. Suggested possibilities as to means of increasing the allowable center of gravity travel were the increasing of the area of the horizontal tail surface and the increasing of the tail length.

Definitely Wanted

Reduction in the necessity of precise weight distribution is definitely wanted by the airlines if it does not penalize other advantages unduly. A determination must be made as to whether increased weight or aerodynamic penalties offset the savings due to simplified cargo handling which would be a direct result of a greater allowance of travel of the center of gravity. The incorporation of this feature of greater travel of the center of gravity by plane manufacturers will most certainly enlist the support of the air cargo operators.

Power Plant

Airlines, generally, do not desire the adoption of minimum power plant requirements because safety is of utmost importance. But at the same time it is suggested that power be reduced to the point of the most efficient economical operation of the aircraft so as to arrive at a maximum in economy of per ton-mile cost. This

may be interpreted as forecasting operation at much lower percentages of rated power than now practiced on passenger transport operations.

It is believed that the terrain and meteorological conditions pertaining to given operations along with the type of service to be rendered will be the deciding factors as to power plant requirements. A suggestion was also made to the effect that given cargo designs should accommodate several types of engines within a given power range in order to permit the selection of the best combination for sea level, altitude, and local operations.

Power plant requirements will have to be considered in conjunction with wing loadings, high lift devices, aerodynamic efficiencies, and length of runways. With either a separate cargo service or a combination service it is considered possible to decrease slightly the overall safety factors so as to permit higher power loadings with given designs but safety and reliability is not to be sacrificed.

Surface Competition

The speed of surface transportation and the competitive situation between the airlines entered into this discussion with the matter of route served being the paramount issue. Surface competition must be met but undue competition between airlines should be averted. Determined costs on the basis of assumed load and range with the best aerodynamic design to meet airport and operational requirements are of utmost importance as they will

establish the rates at which cargo can be transported. If the assumed power loading does not give the desired cost figure when adjusted to meet operating conditions, then a compromise of desired features will be in order. This analysis indicates that power plant requirements will vary considerably according to the particular operation involved with the objective in each instance being to yield the most economical operation with the proper reserve power for safety.

Size of Plane

The adoption of very large planes suitable for ranges of 500 miles and over is looked on with considerable question by most airlines. There was general agreement that such equipment might find a place in intercontinental operation almost immediately, but that their use in domestic operation might require considerable development of cargo traffic beyond what is regarded as probable in the period immediately following the war.

Frequency of schedule, rather than large cargo equipment, is considered as outweighing the advantages of low power installation, low fuel consumption, and high payload of the large airplane. Too great an increase in plane size will be likely to cut the number of daily schedules and thus cause the loss of a feature which is important in the creation of cargo volume. A loss of load factor might come about through the use of large planes whereas smaller planes will overcome reduced volume simply by a

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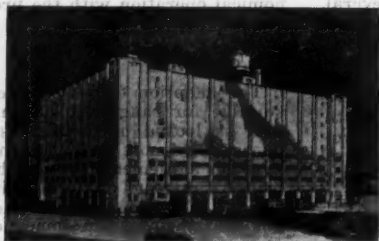
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"Your Interests Are Always Ours"

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DETROIT 16, MICHIGAN



revision in the frequency of schedules.

If the volume of traffic can be clearly demonstrated as adequate to maintain large planes the tendency will be to use them if economies of operation can thereby be secured. Ground time of loading and unloading the larger plane as well as timing of ground pick-up and delivery probably will have to be closely coordinated before the large plane is adopted.

Capital Investment Factor

As a given capital investment will provide fewer operating units in large planes than smaller planes there may be a tendency to continue using smaller planes even when the volume of traffic will justify the larger planes. Also important is the opinion that the air transport industry will be in a better condition if on the low side of optimum size than the high side. The price placed by the manufacturer on the larger unit in all probability will be a determining factor from the standpoint of capital investment.

One operator raised a question as to the feasibility of planning domestic operation of cargo planes with more than 500 miles between refueling stops. If it can be shown that ranges of even over 500 miles are not practicable, then the advantages of flexibility with the smaller planes can be shown to outweigh the advantages of the larger craft.

However, a plane capable of operating at long ranges can take advantage of the more favorable flight speeds of higher altitudes and in addition will

have a higher block-to-block speed with lower rated power than a plane which has to stop for refueling more often. This feature will be of importance if departure and arrival for a given route can be adopted with a larger plane having a block-to-block speed not possible with a smaller plane.

Power Loadings

The maximum power loadings obtainable are believed to range from 10 to 13 lb. per brake horsepower. This will be dependent upon the associated value of wing loadings and the ability of such aircraft to meet Civil Aeronautics Administration requirements for take-off performance.

It was pointed out that operation on present equipment exceeded 10 lb., but little hope was offered for much heavier power loadings although an increase is considered desirable. Belief was expressed that strictly cargo operation should be permitted slightly higher loadings than passenger service although safety is still deemed of prime consideration. Also, cleanliness of design for speed is not to be sacrificed unduly to power loading.

Aspect Ratios

An aspect ratio of approximately 9 for most operations with a smaller ratio for short-range planes and an increased ratio for longer ranges is anticipated. That aspect ratio which gives the greater economy for the particular operation will be selected, but aspect ratios much below 9 are

not considered desirable. Long-range airplanes probably will incorporate higher aspect ratios than 9. Retractable wing tips to permit adjustment of the aspect ratio for the particular operation of a given plane was regarded as a possibility, but the complexity of installation and maintenance and the probable added weight is thought sufficient to offset the advantages of the retractable wing tip.

Wing and Power Loading

Wing loading and power loading are dependent upon each other and must be considered together. However, assuming power loading as a function of wing loading, there is general agreement among the airlines that wing loadings of around 40 lb. per sq. ft. are desirable, but may not be obtainable in actual operation if adequate airport facilities are not available.

The short-range airplane will have a much lower wing loading than the long-range airplane because of smaller airports. Suggested values ranged from 20 lb. for the short-range craft to 50 lb. for long-range design. Landing speed, landing weight, take-off performance, airport facilities, and over-all economy will need to be considered before a decision is made as to the maximum wing loading which can be employed.

Criticism of high wing loading designs now being used is that they showed poor performance under icing conditions and are practically all critical in one-engine-out condition. De-

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velopment of strip runways and advancement of electronic control devices are offered as probable solutions to the airport problem.

Safety Equipment

Full de-icing equipment is expected to be installed on all cargo airplanes with the possible exception of those operating exclusively over southern routes. Such equipment must be of the very best type. No differentiation in quality or sacrifice of dependability of service for cargo operation is contemplated.

Supercharging of the fuselages of cargo planes is considered a possibility but is not yet in general favor. For long-range overseas operation it may serve to an advantage, particularly where most severe weather conditions are likely to be encountered at low altitudes. One opinion was that crew oxygen equipment as used in present military and commercial operation will be adequate for most cargo operations where higher altitude flight will be an advantage. The length of the flight involved and a desire for low cost were mentioned as tending to keep the airplane as simple as possible both in design and maintenance.

Also, it is hoped that cargo flights will not be so competitive as to require the increased cost of operation which will result from the installation of fuselage supercharging. Unless supercharging or protective containers are provided the commodities suitable for high altitude operation may

be limited. The limitation can be overcome, in part, by supercharging certain compartments within the airplane. Flowers and other perishables sensitive to changes in air pressure can be carried in these special compartments.

High-Speed Cargo Service

High-speed cargo service is thought to demand more schedules completed than present passenger service. When a shipper has been assured that his merchandise will be at a designated place at some specific time, he will expect it to be there. A passenger sees and knows the reason for a delayed or cancelled trip but the shipper does not.

Cargo airplanes will therefore require full radio and navigational equipment. The same instrumentation and radio equipment used for passenger ships will be installed on cargo planes. Most airlines can see no reason why the pilot's compartment of the cargo plane should be any different from that of any other transport plane. If the domestic cargo plane is to make frequent stops it must have all of the navigational aids necessary to make the scheduled stops under all weather conditions. The long-range airplane will require essentially the same equipment as the short-range plane with perhaps more emphasis on long-range navigational equipment than on short-range.

There can be no sacrifice of depend-

ability of service and whatever navigational and radio equipment is required for a high operational factor must be provided. Some pessimism was expressed as to the possibility of offering all-weather service in the near future but all agreed that additional equipment would be installed if thereby air transport could offer uninterrupted schedules.

Number of Engines

The question of the number of engines to be used by post-war air cargo planes will be answered in part by the terrain over which flights will be scheduled, meteorological conditions, and the airport facilities available. Long stretches of unlandable terrain or water will require four engines whereas two-engine equipment is considered entirely suitable for most other operations.

The requirement as to available power reserve with one engine inoperative and other phases of regulation by the CAA will have a marked bearing on the operating efficiency of certain type craft. If four-engined craft are granted an increased weight allowance proportionately greater than the two-engined plane, the operating efficiency of the four-engined plane may outweigh that of the two-engined. The fewer engines, the lower the operation cost but the requirements of safety may counteract the economy of fewer engines.

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with two engines for less than 400 mile stops and four engines for ranges of over 400 miles, were suggested by airline people as division points for two and four-engined planes. Terrain is, however, considered as the prime factor rather than distance. Airlines having no difficult terrain to traverse will be inclined to hold to the two-engine craft for a considerable period of time after the war before advancing to the four-engined plane. Several airlines thought that the use of three-engined equipment will find wide acceptance if it can combine the efficiency of the two-engined craft with the safety and load carrying ability of the four-engined type.

Sea Planes

Flying boats are considered to be here to stay because of unlimited landing and take-off zones in favorable localities. In areas with inadequate airports but with water areas suitable for landing they offer opportunities for air service not possible with land-planes. The general opinion

seems to be that the cost of operating flying boats will probably result in a higher tariff on a ton-mile basis due to higher maintenance costs; but the easy solution of the airport problem in otherwise inaccessible areas may warrant the payment of a higher rate by the shipper.

Winter conditions in certain regions and the comparatively fewer available water landing areas than those available to the land planes were believed to relegate the flying boats to a limited field. The trend with operators is toward the use of land planes. For this reason a rapid development of the flying boat is not likely except in long-range overseas operation to which this type of equipment is best adapted.

Authorized to Sell

Ross A. Bleming has been authorized by the California Railroad Commission to sell his warehouse properties at 1276 Water St., Long Beach, Cal., to the West Coast Warehouse Corp., a new concern organized by himself. (Herr.)



The use of demountable containers which can be unloaded quickly from motor trucks, and placed into the fuselage of cargo airplanes, is being developed progressively. They can either be a part of the fuselage, or they can enter the plane through large nose or tail hatchways, and be safely latched or anchored to the main members of the ship.

By using these unit containers, supplies can be assembled by flights or destinations. They can be handled quickly by trucks, trailers, over the highway, and by industrial equipment at airports.

The container idea also makes for security, both from the standpoint of safety in flight and as protection against pilfering during transit.—Matthew W. Potts.

Air Cargo Problems and Potentialities Feature A & M College Conference Talks

(Continued from page 26)

volume from the smaller towns to the terminals. Likewise, they do not anticipate handling air cargo such as fruits and vegetables in plane load lots unless some sort of equipment interchange arrangement can be worked out.

5. Air Cargo Equipment. A very definite opinion was expressed, both by the airline people and manufacturing representatives present that the combination plane would be the most important type plane for some time to come for the scheduled air carriers. Contract carriers may very well oper-

ate exclusive type planes, but some of these will also be operated by the airlines. No one present expected to see army type planes converted for either passengers or cargo.

The glider came in for considerable discussion by Maj. A. E. Blomquist and it was his opinion that it would have considerable potential value as an air cargo carrier for special types of cargo, but that until considerable more experimentation had been done, it was not the "freight train of the air." (J.H.F.)

Aircraft Loading Service

Articles of incorporation have been filed in California for the Great American Universal Aircraft Loading

Service, with capital stock of \$2,500,000. Directors are listed as Lawrence A. Harvey, Louis C. Viereck and May Nylander, all of Los Angeles. (Herr)

Fantastic Predictions Derided by Monro

Criticizing as fantastic predictions of an enormous post-war aviation expansion that includes hauling even coal by air, C. Bedell Monro, president, Pennsylvania Central Airlines, urged Youngstown, O., industrial leaders to study carefully its air transport needs to determine a program of airport expansion. He spoke before about 350 traffic experts and business leaders at the recent Chamber of Commerce Traffic Bureau's annual dinner.

He derided statements that the airlines would put surface carriers out of business after the war, and said that airlines will not get more than 25 per cent as many passengers as are carried in Pullman cars, nor more than one per cent as much freight as is carried by the railroads. He contended that about 700 air liners, chiefly those developed before or during the war, will be enough to handle all the postwar airline business. (Kline)

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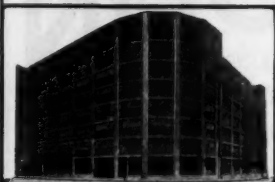
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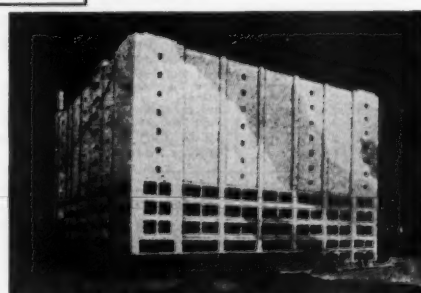
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CAB Issues Study On Aviation Insurance

The Civil Aeronautics Board has issued a study of aviation insurance, primarily factual in nature, which disclosed that the American aviation insurance market is dominated by three groups of insurance companies.

"In 1942 these groups wrote 96 per cent of all aviation insurance business reported to the New York State Insurance Department," the CAB states. "On the basis of reportings to the New York State Insurance Department the aviation insurance sold by the three groups is divided roughly a third among airlines, a third among manufacturers of aircraft and aircraft parts, and a third among other purchasers such as private operators, industrial users, flying schools, and the like."

The Board said in its report that although the total premium volume in aviation insurance is not large when compared with older lines of insurance it seems clear that aviation insurance will become increasingly important in the future.

Stating that American aviation insurance underwriters rely heavily upon foreign insurance sources for re-insurance, the Board's study disclosed, however, that adequate American insurance assets are available to develop an independent American market sufficient to handle the present and future needs of American air commerce.

Air Cargo Students



Air freight class of Academy of Advanced Traffic, New York City, at recent visit to Railway Express terminals and LaGuardia Airport to inspect cargo operations. Shown in the front row from l. to r. are: Adelaide E. Seivert, student; Walter H. Johnson, Jr., American Airlines, instructor; Edward F. May, Manhattan Storage and Warehouse Co., student; James J. Hunter, TACA, student; Ralph W. Starkey, Railway Express Agency; Geraldine Kaye, Director of the Academy; Justine Weston, president, Weston Transfer Co., student.

The Board found New York to be the only state which has undertaken any regulatory action with respect to aviation risks coming within its jurisdiction, and that there was no governmental regulation of the aviation insurance market as a whole. The Board also found that the absence of competition among the three aviation underwriting groups was clearly evident as to non-airline insurance, and that there was lacking affirmative evidence of competition respecting airline insurance. The report noted, however, that the airline insurance

market has been responsive to considerable extent to the need for rate adjustments in line with experience.

Uniform Accounting

The Mississippi River System Carriers Assn., Munsey Bldg., Washington, D. C., has issued a detailed bulletin of interpretations and other information in connection with Interstate Commerce Commission requirements for uniform accounting methods by water carriers.

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"Land of Outstanding Opportunities"

(Continued from page 28)

port distance by protected shipping lanes, already established air routes, and overland highways now in the building.

"2. The fact that Middle America will, after the war, have a solvent agriculture, will prosper and be able to expand her trade with United States help to the benefit of all the Americas.

"3. Cheap labor in the Eastern tropics can be offset by efficient workers and scientific methods in Middle America."

Emphasizing that commercial history has shown that beneficial trade between the United States and Middle America is no war phenomenon, he cited that during 1940, the last peace year, Mexico sold 89.5 per cent of all her exports to the United States and bought 78.8 per cent of all her imports from the same source. He added that in the cases of Honduras, Nicaragua and Costa Rica the ratios were even more favorable to the United States.

"As I consider Middle America today there are certain special factors which seem exceedingly important and are destined to influence the future relationship of that area with the United States," Mr. Stevens declared. "One of the most important reasons for the phenomenal and continuous growth of the United States has been its transportation facilities, the maze

of highways and railroads that cross and counter-cross the country, the many airports basing planes in all sections of the nation, making it possible for people and merchandise to be moved quickly from one section to another.

"In the past, Middle America has been off the beaten path. It had no road facilities joining one country to another. Even ports in the same state were inaccessible, except by sea. Railroads were few and in most cases were built as extensions only of inland capitals with outlets to the sea.

"In recent years the growth of aviation has had a tremendous effect on the inter-communication with Middle America as that area became the route for planes between the United States and South America.

In Mr. Stevens' opinion, the many terminals for airlines now existing in Middle American countries, represent a strong factor that will give stimulus and impetus to the up-building of those countries in the future. A second factor, he stated, lies in the completion of the Pan American Highway, which will result, he predicted, in speedier means of communication between the United States and Central American nations, and provide a route for transportation of large quantities of goods overland. (Herr)

Big Global Trade Foreseen After War

Global trade of almost unbelievable volume, made possible by the wartime development of air transport will be an outstanding feature of the post-war world, according to Lester M. Bradley, Goodyear Tire and Rubber Co. representative, who recently returned from a 35,320 mile trip by air to South America, Africa, India and Great Britain.

Traveling on a tire production mission for the Army Air Forces he touched five continents and passed through 22 separate nations in a total of 15 days' flying time.

"The whole post-war picture as far as international trade is concerned," he said, "is very bright because of the advances in air transportation made during the war.

"Air transport is going to revolutionize some of our sales and distribution methods of the past and will play a leading role in binding the nations of the world closer together both economically and politically," he stated.

Switching Charges

The Interstate Commerce Commission has refused to suspend the New Orleans Public Belt Railroad's terminal charges tariff No. 1-P, ICC, 37, carrying increased switching and other charges protested by the War Food Administration. The WFA has withdrawn its protest.

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See Northern New Jersey for further information

Air Cargo in Latin America

(Continued from page 31)

operate out of 235 small airports or landing fields, and haul freight to and from isolated mines, chicle camps and other remote centers. Within the last five years TACA has carried 93,000,000 pounds of air express. It takes only two hours for the planes to move freight 150 miles from the north coast of Honduras to the capital, but before the planes came, it took two weeks. To move chicle from the forest stations to Flores, the gathering center, used to take six days using pack mules; it now takes 30 minutes by plane for an air line distance of 50 miles.

It is 795 miles by river and railroad from Barranquilla to Bogota, Colombia. Merchandise moving over this route takes from one to five weeks, depending on the state of the river, and sometimes must be loaded and unloaded several times to get around rapids. The airline distance between the two cities is only 450 miles and the flying time is 2½ hours.

Varied Air Shipments

Argentine merchants are shipping all sorts of commodities by plane. A recent 2-ton plane cargo sent from Buenos Aires to Quito contained felt hats, leather goods, optical goods, spectacles, stockings, textiles, phar-

maceuticals, seeds and samples of foodstuffs. The cost of this shipment, it is said, was no greater than ocean freight and wartime insurance, and the goods reached their destination in four days instead of 40.

Panagra now operates a freight plane service between Buenos Aires and the Panama Canal. At Balboa shipments are transferred to Pan-Air planes to Miami. The distance from Miami to Buenos Aires is 5,300 miles.

One-Third Cheaper By Air

Freighting rubber out of the upper Amazon is a third cheaper by air than by the Madeira-Mamora Railroad, said Joao Alberto lins de Barros, Brazil's Coordinator of Economy. He also says capital at the present time should be invested in air lines rather than in interior railroads.

General Salinas, Mexico's chief of civilian aeronautics, says: "In Mexico air transportation is in many cases cheaper than pack mule transportation and great quantities of coffee, chicle and ore concentrates are now shipped speedily by air from otherwise inaccessible areas."

The Tarapato Valley in Peru's Department of San Martin is famous for its fine tobacco but, due to absence of highways, they have had to bring

the tobacco bales to the coast on mule-back. This tobacco is now shipped by plane and it is not exposed to the weather.

Argentine ranchers around Salta would like to ship fresh beef by plane to Antofagasta, Chile. The air line distance between the two is 330 miles. They could profitably do this if planes were available. Live cattle are now driven across the desert and the 12,000-ft. Socompa Pass of the Andes to reach Antofagasta.

Using Plane Saves Year

As the seasons in Argentina are the reverse of those in the United States, seed men in North America now save a full year by harvesting a crop of seed in September, shipping it to the Argentine by plane, where September is spring, plant it and harvest a new crop of seed in February, which is flown back to the United States, reaching here in time for early spring planting.

Hundreds of other trade possibilities exist throughout the American republics and are only awaiting the time that planes, plane fuel and other equipment become available. Where a large and constant volume of shipping is offered on a two-way movement and where planes of large capacity specially designed for freight movement are used, it has been variously estimated that air freight could be profitably handled at from 15c. to 25c. a ton-mile. This does not mean that there will be fewer shipments by

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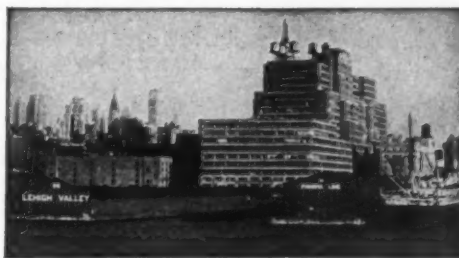
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steamer or by train or that railroads or highways will cease to be built. There will be more railroads and more highways in South and Central America. The planes will only supplement the ships and the railroads and will never carry more than a fair percentage of the total Inter-American commerce.

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But that small tonnage is the leaven of the entire mass—a special machine, a spare part or a much needed chemical sent by plane may often keep a whole factory or an entire industry from closing down.

3,000 Tons a Week

Edward Warner, U. S. Civil Aeronautic Board, says the average plane in the Transatlantic ferry service is now carrying 12,000 lb., while 3,000 tons of cargo a week is now crossing the Atlantic by plane at an average cost of 20c. per ton-mile.

According to a statement by the Civil Aeronautics Board, within three

years transoceanic and international air passenger traffic under the American flag is expected to increase six times and mail and express at least eight times over the April, 1942, figures.

Aviation authorities expect to put into effect a schedule of 26 hours between New York and Buenos Aires soon after peace is restored and night flying can be effected with properly lighted courses. Other schedules would be shortened in proportion.

Can't Set Limits

The field is so great and new developments are appearing with such speed that technicians hesitate to set limits on this great new industry.

Our modern world is one hundred times smaller than was the world of Christopher Columbus and, on the basis of increased speed of planes, only half as large as it was even in 1938.

Today, we are told, no point in the world is more than 60 hours from New York. Small wonder that the Americas are taking to wings!

Mexico's Income Shows Increase

The national income of Mexico increased during 1943 to an estimated \$1,600,000,000 from \$1,400,000,000 a year earlier, according to the current issue of "The Inter-American Magazine."

Foreign trade continued to expand with an increase of 55 per cent in merchandise exports. The favorable trade balance, at \$40,300,000, was nearly two and a half times greater than in 1942.

Discussing Mexico's postwar outlook, the publication points out that a drastic decline in mineral exports is expected when abnormal war demand ceases. "To protect home industries and workers," the magazine said, "restrictions are being advocated against the importation of luxury articles and other goods manufactured in the United States that might compete with those produced in Mexico."

Coast Agency

Snyder Engineering Co., Los Angeles, has been appointed representative in Southern California and Arizona for overhead materials handling systems, including overhead crane and monorail conveying systems, manufactured by The Loudon Machinery Corp. The Snyder Corp. was established in 1938 with L. L. Snyder as president, J. A. Lane as vice-president, and H. D. Graessle as secretary-treasurer. (Herr)

Synthetic Tires

Illustrated with many photographs showing both the repairs to be made and the methods for making them, B. F. Goodrich Co., Akron, O., has published a service bulletin on "Repairing Synthetic Tires and Tubes" which is now available upon request.

Truck Tire Tips

Publication of a new booklet, "Truck Tire Tips," designed to help truck owners increase tire mileage and conserve rubber, has been announced by the Associated Tire Lines Division of The B. F. Goodrich Co., Akron, O.

For Shippers' Convenience, States, Cities and Firms are Arranged Alphabetically

Classification of Air Cargo

CLASSIFICATION OF AIR FREIGHT AND ITS RELATION TO EXISTENT CLASSIFICATION IN OTHER FIELDS OF TRAFFIC by Curtis W. Oppen, The Rio Grande Co., New York, N. Y., 1944, pp. 36, mimeographed, \$1.00.

By John H. Frederick
Air Cargo Editor

o o o

As yet the airlines have not provided shippers with a complete classification but they will have to do so soon after the war. Several are working on the subject now and, therefore, this study by Curtis W. Oppen, a transportation economist, is of considerable significance.

The author suggests, in order to save time and effort, that the *National Motor Freight Classification* already in use by the truck lines be adopted through the use of certain adjusting formulas. It is his opinion that motor freight more nearly approximates air cargo in most of its characteristics than does any other type of traffic. The author also believes that the economic and financial structure of the air transportation industry is closer to the motor freight industry than to any other common carrier because the quantities carried are similar in volume and neither the motor nor air carrier need consider allowing for a return on large fixed investment when

making their rates or classifying products carried.

The various steps necessary in the assignment of a specific class to a specific item are considered in some detail, since all classification is based on various so-called "elements" of classification which later enter into various "factors" of classification in assigning appropriate class ratings. This study lists 23 "elements" and 11 "factors."

The study compares the various elements and factors in the transportation of air cargo to those considered in by motor carriers. A detailed analysis is made of the trend of alteration resulting from each element and factor of the motor freight classification when adjusted to air cargo. From a detailed study of every altering factor or element the author tries to develop exact mathematical formulas for computing the amount of adjustment resulting therefrom.

The formulas developed are, how-

ever, highly technical and based on a very thorough investigation of the different conditions generally prevailing in air cargo and also their effect on a freight classification.

This is an ingenious first approach to air cargo classification and the author seems fully aware that changes and adjustments, dictated by practical experience, will have to be made later.

It is the reviewer's opinion, however, that it would be a mistake for air cargo classification to model itself too closely after that of any other medium of transportation. The experience of the motor carriers has certainly shown that they made a mistake, in their early days, in too closely following the railroad classifications and even class rate tariffs in some instances.

New Storage Firm In Hagerstown, Md.

The old Hagerstown Storage and Transfer Co. building at Church and Prospect Sts., Hagerstown, Md., has been acquired by the newly organized Hagerstown Storage Co.

Officers of the new corporation are: John H. Baer, president; Amos C. Baer, vice-president, and Clarence Keedy, secretary and treasurer.

Said to be the largest general storage building in Hagerstown, the structure contains about 600,000 cu. ft. The trucks, rights and transfer business were purchased and will be operated by Amos C. Baer, one of the officers. (Ignace.)

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3,000,000 Cubic Feet — Pool Car Distribution

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Internal Revenue and General Bonded Storage
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Five warehouses are ready to help you with your tough jobs. Equipped with 4 locomotive cranes. With buckets and magnets for handling heavy steel & bulk commodities. Other mechanical equipment for handling merchandise.
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BUY War Bonds and keep them to help win the war. They are post-war nest-eggs. The more you buy the more you'll help and have.

U. S. Steel Enters Housing Industry

The United States Steel Corp. has entered the prefabricated housing field through the purchase of a substantial interest in the Gunnison Housing Corp. of New Albany, Ind. Benjamin F. Fairless, U. S. Steel president, in making the announcement, said that the acquisition would give the corporation the research facilities and experience of an established leader in the prefabricated housing field.

"Prefabricated homes should become one of the world's greatest industries and can aid substantially in post-war employment," Mr. Fairless said. "Everything the steel industry can accomplish in the development of this new type of housing will be another milestone in the social progress of America."

Gunnison prefabricated homes have been designed to sell generally for \$2,800 to \$5,000.

Foster Gunnison, under terms of the purchase agreement, will continue in charge of the company's affairs.

He is founder and principal stockholder. A pioneer in prefabrication, he has devoted many years to perfecting the Gunnison home. Before the war he had distributed the product from coast to coast through a widespread dealer organization.

Government to Keep Treasure Island

The status of Treasure Island, famed as site of the Golden Gate International Exposition, and now occupied by the Navy, has finally been settled. Under stipulations signed in the Federal Court in San Francisco, the City of San Francisco waived claim to monetary compensation for the land which the Government wants as a Navy base; and the Government agreed to spend 10 million dollars in development of the San Francisco Airport. Everyone concerned appears to be content. Originally, San Francisco wanted the Island (man-made from marshland in the Bay for the Fair) to be converted to a flying field. (Gidlow)

Yale & Towne Buys Kron Scale Business

W. Gibson Carey, Jr., president, Yale & Towne Mfg. Co., Chrysler Building, New York, has announced the purchase of the scale business of the Kron Co., Bridgeport, Conn. The Kron Co. has designed, manufactured and sold high-quality industrial scale equipment for more than a quarter of a century.

Facilities and personnel of the Kron Co. will be maintained in Bridgeport as heretofore, together with the sales and service organization, but all will be under the general direction of the Philadelphia Division of Yale & Towne Mfg. Co., which is an important factor in the manufacture and marketing of hoists, industrial trucks and related machinery.

Acquisition of the Kron scale business, it is said, gives Yale & Towne a line of products which tie-in naturally with the markets and the distribution channels through which the company's materials handling machinery is sold.

Substantial Savings Have Been Effected By QM Surplus Stock Control

ESTABLISHED only a few months ago, the Excess and Surplus Property Section, Office of The Quartermaster General already has saved the Government approximately \$2,000,000. In addition, it has been able to save a great number of contract worries for the Army and avoid excess orders which would otherwise be placed with an already overloaded industry.

The new Quartermaster section was established under War Department Regulation No. 7. This provided that each service, before contracting for equipment for which it had purchase responsibility, check with all other services to see if they had any excess supplies or equipment of the type required, and to use such supplies before going through contracting procedure.

Division of QM

The Excess and Surplus Property Section is set up within the Procurement Division of the Office of The Quartermaster General. Its primary concern is the utilization of as much excess property as can be obtained to fill Quartermaster requirements and

those requisitions of other Services for which the Quartermaster Corps has purchase responsibility.

This means, for instance, that if QM Corps receives a requisition for several thousand hatchets, it will immediately check surplus and excess property lists of other services. If hatchets of the same general type are available, but do not meet the exact specifications of the hatchets called for, they would be issued if approved by the originating service.

Regular Reports

Through the organization already set up, reports are received regularly from all other Army services as to the quantities of various types of property which they have on hand over and above their requirements. Thus, it is possible to ascertain who has the excesses, where they are and the quantities, and how to get them.

The item to be procured need not exactly match the specifications of an article on the excess list of some other service, but if it is an "equal substitute" it is also considered in filling

the requisitions. For example, if the requisition called for a 3½ in. machinists' bench vise, and it is noted that a 4 in. vise of the same general characteristics is available, the latter would be furnished. This flexibility exercised by the Quartermaster General is said to have saved many thousands of dollars.

Flexibility Possible

Another example of this flexibility which may be cited is that involved in the request reaching the QM a few weeks ago calling for 12,000 gross 12-in. hacksaw blades. At the time no such quantities were available in the excess lists, but in a short while a report was made of some 1,245,000 blades that were in excess of the needs of another service. This enabled the QM to cancel the order which had been placed with the manufacturer, and at the same time furnish the required item. The manufacturer was not inconvenienced, since he was engaged in other essential work.

Within the past month, to cite still another example, an urgent request

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Pool Car Distribution—Bulk Tank Storage
Operating Own Delivery Equipment
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DIRECT FROM FREIGHT CARS

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Most Economical Warehouse and Distribution Services
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Cleveland's Largest Cold and General Merchandise Warehouse

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City-wide Facilities for
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Private rail sidings both east side and west side. Ample truck docks.

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TO MEET ALL OF YOUR NEEDS

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D and W, June, 1944—89

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in CLEVELAND, OHIO

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A.D.T. System. Private double track siding.
Free switching from all railroads.

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COLUMBUS, OHIO

Consign Your Household Goods Shipments to

DAN EDWARDS at COLUMBUS

Packing—Shipping—Storage—Local and Long Distance Moving—Steel
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EDWARDS TRANSFER AND STORAGE CO.
430 North High St., Columbus 15

Member—National Furniture Warehousemen's Association. Agent—Allied Van Lines, Inc.



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THE MERCHANDISE WAREHOUSE CO.

370 West Broad St., Columbus 8

Complete service for
MERCHANDISE STORAGE AND DISTRIBUTION
Private Siding NYC and Big Four
14 Car Capacity

Pool Car Distribution A.D.T. Service
Centrally Located Modern Facilities
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The NEILSTON STORAGE CO.

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Modern warehouse for merchandise—Low
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distributed.

Member of O.W.A.



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WRIGHT TRANSFER & STORAGE CO.

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Est. 1904

Merchandise—Household Goods

Wright Service to Meet Your
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Member of N.F.W.A.—A.V.L.—O.F.W.A.



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MEMBER

WAGNERS SERVICE, INC.

Pennsylvania Railroad and Lowry Ave.

A warehouse service that embodies every
modern facility for the storage and distribu-
tion of Household Goods and Merchandise—
Motor Freight Service—Door to door delivery
at Dayton, Springfield and Columbus daily.

Member of A. W. A.—O. W. A.



TOLEDO 2, OHIO

Merchandise and Furniture Storage

MEMBER



Willis Day

Automatic fire and burglar alarms—ADT
Long Distance Moving

was made on the QM for 100,000 mops for an overseas destination. Stocks of the item were low, and a delay was anticipated in making the shipment. However, 110,000 of the identical item were located as excess to another service, and the overseas requisition was filled in its entirety, and on time.

It is expected that within the coming year a saving of many millions of dollars will be effected through the new set-up. Also, heavily-loaded manufacturers will be saved the burden of additional small contracts, requiring a changeover in their manufacturing plants. Another advantage will be that many of the items requested will be made available more quickly to the units which need them than if they had to be fabricated "from scratch."

1944 Canned Goods To Be Date Marked

To facilitate the proper handling of the 1944 pack of canned fruits and vegetables intended for consumption by American soldiers, and to assure using up all stocks remaining from earlier packs before starting on the 1944 pack, the Quartermaster Corps will require canners and processors this year to mark the cases of canned goods packed for the Army with the numeral "44" for easy identification.

QM Eliminates Paper Labels From Canned Goods

The Quartermaster Corps now requires that all paper labels be eliminated from cans of food packed for the Government.

This decision was reached because the labels occasionally come off the cans under the hard handling that canned goods sometimes must undergo in transit to posts, camps and stations in the United States and to the fighting fronts, leaving the cans with no identification whatever as to contents. Also, it was found that even if the labels did not come off, they held moisture and stimulated rusting and corrosion of the metal containers with possible damage to the contents.

Instead of paper labels, the QM Corps will require packers to print or lithograph the cans with statements as to contents, and if facilities are available, to use a rust-inhibiting paint or lacquer to protect the outer surfaces.

The QM Corps is endeavoring to have coating facilities provided in all canneries in order to ship overseas requirements of canned foods in coated cans. In the event the can coating program cannot be completed, uncoated cans, properly marked, but without paper labels, will meet climatic conditions better in overseas theaters, in the opinion of QM officers.

Advanced Training For Storage Officers

Thirty-two officers from Army Service Forces and Quartermaster depots throughout the country enrolled in the second course of the Advanced School for Storage Officers at the Utah ASF Depot.

The previous course, the first of its kind to be conducted by the Army, was so successful that the Office of the Quartermaster General made arrangements to train another group of especially selected storage officers at the Utah depot.

The course includes on-the-job instruction and intensive study of warehouse operations. Among the subjects to be covered are: organization and administration of depots; labor and equipment pools; standing practices in storage and handling of commodities; packing, crating, baling and related subjects. (Toles.)

New Circulars

New circulars, describing "Kover-Oil," shows how to paint this compound directly over oil-saturated surfaces, machinery, asphalt, etc., to act as an effective sealer. The circular is 8 1/2 in. x 12 in. in size, printed in two colors, and contains illustrations of application together with descriptive information. A copy may be obtained from Rock-Tred Corp., 605 W. Washington St., Chicago 6, Ill.

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CAR CAPACITY

800—COLD
400—DRYPRIVATE SIDINGS
N.Y.C. AND
B.&O. RR's

GREAT LAKES TERMINAL WAREHOUSE CO.

321-359 MORRIS ST.

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Merchandise Storage—Pool Car Distribution

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R. W. PAGE, President

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Storage—Moving—Packing—Ship-
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New York Central—Free Switching, Merchandise Storage—Pool Car
Distribution—Negotiable Receipts—Transit Storage Privileges—
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HOLMAN TRANSFER COMPANY
STORAGE DISTRIBUTION

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A.W.A.—O.S.W.A.Single Responsibility...
Unified Service for
POOL CAR DISTRIBUTION
MOVING VAN SERVICE
PACKING & CRATING
STORAGE
LOCAL CARTAGE

AT THE FOLLOWING POINTS

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MINNEAPOLIS, MINN. YAKIMA, WASH.FOR INFORMATION WRITE CONSOLIDATED
FREIGHTWAYS WAREHOUSE AND MOVING
DEPT., P.O. BOX 3618, PORTLAND 8, ORE.
or to points listed above

More Shipper-Receiver Aid Held Vital To Relieve Existing Box Car Shortage

CITING heavier military and civilian demands for box cars, longer average hauls, slow unloading and failure of many receivers to clean cars as important factors contributing to the present serious shortage of box cars, F. T. Westmeyer, district manager, car service division, Assn. of American Railroads, speaking before the Pacific North Assn. at Seattle, Wash., recently, called on shippers and receivers for greater cooperation in expediting the movement of box cars.

"Briefly," Mr. Westmeyer said, "the box car problem is one of the major car problems we have to contend with today. Until July, 1943 box car requirements were met without serious difficulty. Since then, however, shortages have developed and continue to persist in several states. I am being perfectly frank about this because I believe when the box car problem is better understood by users we shall have better results with the available supply.

Loadings Heavier

"To give you an idea of the demand for box cars I shall briefly cite loadings of several commodities for which

this type of car is used. Grain and grain products, for example, during the first six weeks of 1944 were running 12 per cent ahead of 1943, and 29 per cent ahead of 1942. This accounts for 34,000 cars in six weeks, as compared with the same period of a year ago. Less-than-carload freight was 16 per cent greater in volume than last year, and this accounts for approximately 80,000 cars in six weeks. Forest products, which frequently move in box cars, were loading 14 per cent ahead of a year ago for the period mentioned.

"Potash in New Mexico, sulphur in Texas, soda ash in the middle west, moulding sands in Illinois, hay in Montana, have all taken their part of the supply. Box cars are even being used to supplement the movement of oil by tank cars. During 1943 more than 14,000 cars handled oil in drums from the southwest to the Atlantic seaboard. The volume of box cars loading explosives of one kind or another is very heavy.

Longer Hauls

"Another important factor affecting the box car supply is the length

of the average haul. The precise increase is not available, but we know that it has been substantial. Indicative of this, is the fact that during the first 11 weeks of last year's crop, arriving in Minneapolis and Duluth, there was a 50 per cent increase in reconsignments of grain in the same car to destinations beyond the terminal markets. This has also occurred elsewhere in varying degrees, which means that the days required for a complete trip to the unloading point are increased, and the box car is correspondingly not available so soon for another load.

Action Taken

"The car service division, the individual railroads, the ODT, the ICC and other governmental agencies have not been unmindful of the situation. You may be interested in some of the measures taken to assist the box car supply.

"Heavier loading is mandatory under ODT 18, and is to be encouraged. There is no easier way to create cars than heavier loading. A 25 per cent increase in the average load makes

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one car available for every four loaded.

"An active campaign is constantly being conducted to apprehend and stop contamination of high class box cars. A high class car once contaminated is generally lost for some time to usage for high class loading, like flour, sugar, feed and similar commodities. Frequently re-building of the entire interior of the car is necessary to place such a car in first class condition again.

Refrigerator Cars

"Service Order 104, issued January, 1943, permits the loading of PFE and SFRD refrigerator cars, in lieu of box cars, from the east to certain far western states. Amended Sept. 1, the order makes it mandatory to use refrigerators instead of box cars where practicable. This saves hauling box cars west, loaded in parallel movement, with empty refrigerators and vice versa. It has had beneficial results."

Cars to Mexico

To prevent loss of cars to Mexico, a service order (No. 107) was issued, which requires that United States railroads shall not deliver freight cars of U. S. ownership to Mexican railroads in any semi-monthly period in greater numbers than cars were received from the Mexican railroads in the previous semi-monthly period. The purpose of this order was to protect the domestic car supply. To make it

effective an embargo was issued prohibiting shipments to Mexico, except on permits issued by the car service division.

"If you have shipments to Mexico please secure your permits prior to loading, as there have been times when permits have been temporarily withheld due to necessity for complying with the order.

"Recently a special car order No. 46 was issued by the car service division requiring that 10 specified western ownership box cars be seen home empty promptly, unless they could be loaded in the western territory. This territory is generally defined as west of Chicago, Peoria and St. Louis, and north of a line running from St. Louis, through Kansas City, Denver, Salt Lake and through to Portland.

"The effect of this order has been to squeeze box cars out of the east and southeast and into the western home territory for the cars covered by the order.

Prospects Ahead.

What are the prospects for improvement in the box car supply? In January, 1944, 786 new box cars were placed in service, as compared with only 17 in January, 1943. On Feb. 1, 1944, 10,277 box cars were on order, as compared with only 67 Feb 1, 1943.

"This is a good sign, especially significant when we consider that in January, 1944, new box cars installed were almost equal to the total installed during the first nine months

of last year. We are beginning to acquire new box cars. That is no reason, however, for complacency. The requirements for box cars for war will continue heavy. The higher class cars will be used for handling ammunition, explosives and other war commodities requiring the very best equipment.

"What can shippers do about it? You can do a great deal to help the box car supply. The best answer is the program of the War Transportation Efficiency Committee. You can and should load and unload promptly and as heavily as practicable. We regret to state that several reports of badly delayed cars have come to attention lately. Slow loading and unloading, especially unloading, seems the most common cause of box car detention.

"Another way in which all receivers can assist is to remove dunnage, and make the car immediately ready for another load. This avoids loss of time on a cleaning track. The answer to your own problem will be apparent with a little attention to car handling. (Haskell)

Buys Building

The Clayton Warehouse Co., Inc., of which S. J. Steers is vice-president, has purchased the eight-story industrial building at 217-221 Washington St. at Barclay St., New York City, from the Central Hanover Bank & Trust Company, as trustee of Susan P. Lilienthal, for a stated consideration of \$36,000.

R. R. Freight Loss and Damage in '43 Totalled \$42,050,364, or 26% Over '42

Freight loss and damage payments made by the railroads of the United States and Canada in 1943 totaled \$42,050,364, an increase of 26.1 per cent over the preceding year, Lewis Pilcher, secretary, Freight Claim Division, Assn. of American Railroads, told the organization's annual convention recently at Cincinnati.

Claim payments of Class I American railroads last year were 0.59 per cent of the gross freight revenue as compared with 0.54 per cent in 1942. Mr. Pilcher reported. Those of Canadian railroads, he said, were 0.30 per cent of the revenue, the same ratio as in 1942.

Although freight loss and damage payments of the railroads have increased since the beginning of the war, Clinton D. Hart, chairman, Freight Claim Division and assistant general claim agent, Santa Fe Railway, declared that "they are not within hailing distance of the loss and damage bill of the First World War."

"Ton-miles in 1942 were 66.8 per cent in excess of 1918," Mr. Hart continued, "but the loss and damage bill was 42.6 per cent less than in 1918. In the second year of both wars, the comparative showing is much better. Loss and damage in 1943 was 59.8 per cent

less than in 1919 in the face of an increase of 97.5 per cent in ton-miles.

Edward B. DeVilbiss, chairman of the division's committee on prevention of loss and damage, and manager, Insurance Department, Pennsylvania Railroad, told the convention that "the continuance of the war and its inevitable effects have intensified the prevention problems of the railroads."

Pointing out that one of the outstanding practices put into effect on the railroads during the war is heavier loading of freight cars, particularly merchandise cars, Mr. DeVilbiss went on:

"The transportation advantages gained from the heavy loading by reducing the number of cars and locomotives to handle a given business, the increasing of the ratio of the net tons to the gross tons per car and train, and above all the part the increased loading is playing in the lowering of the operating ratio, are such that when this war is over and the railroads are back to the position of depending for an existence on other than Government business, the heavy loading will remain with us."

Brigadier General Robert H. Wylie, assistant chief of transportation, United States Army, revealed that the

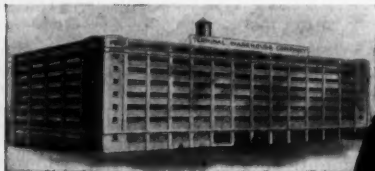
armed forces have devised a method of marking shipments so that enemy agents will have no way of knowing where the goods are being shipped.

"On initial movements of supplies and equipment," General Wylie explained, "we use four-digit numbers which become obsolete as soon as the move is completed. To the informed few, that number tells the theater, the station and the precise unit to which it is going. Maintenance supplies to destinations already established go under a combination of four-letter words with other letters and numerals.

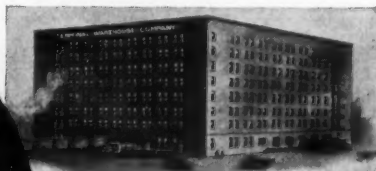
"In addition, we use a color-marking system on our maintenance supplies for purposes of sorting on piers and in depots. The most benighted savage can tell red from green or yellow from blue, and thus can be used to sort supplies in an overseas dump by following the colors painted on the corners of the boxes."

General Wylie declared that "under the pressure of war, we have learned new methods and devised techniques that may be of continuing value." "There are lessons of lasting benefit," he said, "in our system of traffic control by which the Army Transportation Corps and other agencies of the Government, with the consistent cooperation of the railroads, have been able to handle a volume of passengers and goods that we would not have thought possible a few years ago."

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transportation stated that packaging of Army supplies has so improved since the beginning of the war that now there is only an occasional faulty shipment. This improvement, he added, "is the product of a long and energetic joint effort in which the

Army, the Navy and the War Production Board have all had a share."

James J. McManus, of St. Paul, Minn., freight claim agent of the Northern Pacific Railway, was elected as the new chairman of the Freight Claim Division.

Softwood Transmuted Into Hardwood By a New du Pont Chemical Process

A new chemical process that transmutes all types of softwoods into wood of any desired hardness has been perfected by E. I. du Pont de Nemours & Co. The new process, the company states, will make millions of acres of American forests of pine and other soft woods a new and valuable source of the best timber.

With the new process, it was announced, "poplar becomes harder than hard maple, which in turn can be made harder than ebony." The compressive strength of wood is so increased and other properties imparted by the process to such an extent, it was added, "that the result is actually no longer natural wood, but a new material that may be termed transmuted wood."

The chemicals used in the process are derived from coal, air and water. The first step is to use these three for synthesizing ammonia, carbon dioxide and methanol (synthetic wood alco-

hol). The carbon dioxide and ammonia react to form urea, a substance widely used as a fertilizer. The methanol yields formaldehyde, which condenses with urea to form a substance named di-methyl-urea. When the latter is mixed, in water, with urea, compounds are formed that are known as methylol-urea. These chemicals, it is stated, can transform soft woods in a few hours into hard woods that take nature a hundred years to grow.

The new development was described last month by Dr. J. F. T. Berliner, and was demonstrated by chemists of the du Pont Ammonia Department, before a meeting of press and trade representatives at the Waldorf-Astoria, where articles made of the transmuted wood were exhibited for the first time.

The chemicals—white, water-soluble solids—are impregnated by pressure into the structure of wood in a water solution. The methylol-urea, it

was explained, reacts with components of wood to form hard, water-insoluble, unmeltable resins within the piece of lumber being treated. Natural acids present in timber start the chemical reaction. Heat, such as kiln drying, speeds the conversion of the methylol-urea into resins within the wood. The change takes place throughout the wood, not just on the surface. The cost is from 3½ to 4½ a bd. ft.

Color also may be imparted permanently throughout the wood by mixing a dye with the impregnating chemical, it was announced.

The chemical treatment, it was added, "reconstitutes wood to order, even to making it strong enough to substitute for steel in certain machinery parts; it enables industry to create in a few days woods harder than ebony, which nature takes a century to grow."

The new process, for example, permits the construction of doors, windows and drawers that will not swell and stick or contract and become loose. Furniture made of the transmuted wood could be shipped throughout the world, to humid tropics or dry areas, without swelling, shrinking or warping.

Units for Lockers

Plate Refrigeration, Inc., has been organized by Drew N. Martin, head of Engineering Service, Inc., and some associates, to manufacture refrigeration units for food lockers. C. C. Hubbell is chief engineer. (Kline)

Readers' Comment . . .



"Very Significant . . ."

"Our compliments and appreciation on your splendid Marine Transportation Issue of April, 1944," writes H. C. Brockel, municipal port director, Board of Harbor Commissioners, City of Milwaukee. "We are indeed gratified by the extensive coverage given Great Lakes shipping in this issue, and the thorough discussion of lake shipping matters as expressed by several feature articles.

"I am enclosing a confirmation copy of telegram, requesting reprint copies of the article 'Future of Package Freight on the Great Lakes,' beginning on page 42, and the article 'Milwaukee is Typical of Inland Ports,' appearing on page 68.

"We would also appreciate receiving 15 or 20 additional copies of the April waterways issue for distribution to key public officials and terminal operators in this area who do not regularly receive it.

"We feel that the entire issue is a very significant one and should be distributed as widely as possible, particularly in the lake area."

"Waterways of the South . . ."

"You have published an article in your April issue regarding waterways of the South, and we are very much interested in securing a copy of this article as soon as possible," writes Robert D. Hays, general manager, Mobile Chamber of Commerce.

"Of Great Interest . . ."

"Please forward *D and W* magazine, one year's subscription beginning with the April issue," writes E. G. Plowman, vice president, traffic, United States Steel Corp. of Delaware. "The April issue contains articles on inland waterway transportation which are of great interest and value to this office."

"Extremely Useful Publication . . ."

"As you may know, we are charged with the warehousing of considerable quantities of strategic materials imported in connection with the war effort," writes C. D. Williams, chief, Service and Recording Division, Defense Supplies Corp. "We have found

year 1944 Annual Shippers Directory an extremely useful publication in this connection.

"The copy we received in connection with our subscription is used so constantly that we would appreciate very greatly being furnished three additional copies and billed for whatever charge you make."

"Wants to be Assured . . ."

"Our Mr. T. B. Johnson, traffic manager, has been receiving your *D and W* monthly publication since the first of the year," writes J. M. Pratt, purchasing agent, The Cummer Co. Division of Sterling Drug Inc. "He is enjoying your publication very much and wants to be assured that he will continue to receive it."

"An Overstatement . . ."

"We should like to call your attention to an overstatement in your April issue with respect to the omnibus rivers and harbors and flood control bills now pending in Congress," writes Wendell Phillips Dodge, editor, *The Marine News*.

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CAROLINA BONDED STORAGE CO.

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General merchandise and household goods storage.

Pool Car Distribution. Private rail sidings. Sprinkler equipped warehouse.



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"Good housekeeping, accurate records, Personal Service"
Located in the center of the Jobbing & Wholesale District

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Fireproof, sprinklered building with private siding on the C&NW.

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Nashville Warehousing Co.

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GENERAL STORAGE
POOL CAR DISTRIBUTION
FREE SWITCHING—CITY TRUCKING

NASHVILLE, TENN.

ESTABLISHED 1886

THE PRICE-BASS CO.

194-204 Hermitage Ave., Nashville 2

STORAGE

Automatic Sprinklered—Spot Stock and Pool Car Distribution—
Private Siding



AMARILLO, TEXAS

ARMSTRONG TRANSFER & STORAGE CO., INC.

103 SOUTH PIERCE STREET

Merchandise Storage & Distribution
Household Goods Storage, Moving & Packing
Long Distance Operators
WM. C. BOYCE J. A. RUSH



BEAUMONT, TEXAS

TEXAS STORAGE COMPANY

656 Neches St.

Beaumont, Texas

Merchandise and Household Goods
Warehouse, Concrete Construction
30,000 Sq. Ft. Distribution of Pool Cars
Transfer Household Goods
Agent for A.V.L. Member of N.F.W.A.—S.W.&T.A.



CORPUS CHRISTI, TEXAS

CORPUS CHRISTI WAREHOUSE AND STORAGE COMPANY

Located AT PORT SITE
adjacent to docks NAVIGATION DISTRICT NO. 1

Storage Distribution Drayage
MERCHANDISE EXCLUSIVELY
95,400 Sq. Ft. Sprinklered Low Insurance Rates
Member: Southwest Warehouse and Transfermen's Ass'n

CORPUS CHRISTI, TEXAS

Robinson Warehouse & Storage Co.

General Offices: 1500 N. Broadway, Corpus Christi

Specialists in

General Merchandise Storage—Pool Car Distribution

Public Bonded Warehouses at Alice, Corpus Christi, Harlingen and Victoria . . .
Daily and overnight common carrier Motor Freight Service to Houston, San
Antonio, Austin, Laredo and Rio Grande Valley, serving all intermediate points.
Expert Handling; Inquiries Invited

"Under 'Washington Reports . . .'
Mr. Kruckman states that 'The
Omnibus Rivers and Harbors Bill,
HR 3961, together with its allied
Flood Control Bill, is the most stupen-
dous measure of its kind ever brought
before Congress. Apparently few per-
sons actually know the complete de-
tails. It is estimated that it provides
authorization for 500 to 600 projects
to improve waterways and harbor fa-
cilities, and for appropriations which
will aggregate between \$4,000,000,000
and \$5,000,000,000.'

"With the deletion of the proposed
waterway connecting the Tennessee
and Tombigbee Rivers, the rivers and
harbors omnibus bill totaled about
\$350,000,000 when it passed the
House. No money is provided in the
bill; it simply authorizes the projects.
Furthermore, the bill provides that
none of the work shall be begun until
six months after the war's end, unless
it is established in the meantime that
some of the projects are vital to the
prosecution of the war.

"Of course, many preliminary ex-
aminations and surveys are provided
for in the bill, but it may be years be-
fore any of these projects are even
authorized, to say nothing of money
being appropriated for their prose-
cution.

"The omnibus flood control bill has
only been introduced. At introduc-
tion, projects provided for totaled
about \$820,000,000. This bill also pro-
vides for preliminary examinations
and surveys with the same outlook as

we described above for this portion of
the rivers and harbors bill.

"Postwar planning is being done
by many earnest organizations;
rightly so. Next to victory, nothing
transcends importance of full em-
ployment afterward. Waterway im-
provements will not only aid greatly
in providing postwar employment,
they also will extend economies in low
cost water transportation, increase
local and national assets, stimulate
local business in improvement areas,
and bring incalculable benefits to mil-
lions through protection from rivers
run wild. Surely, these are worth-
while results."

May Editorial

"I wish to take this opportunity
to compliment you on your latest edi-
torial—'Fads, Packaging and Post-
War Planning'—which appears in the
May issue of *DandW*," writes Clyde
E. Phelps, executive secretary, Asso-
ciated Warehouses, Inc., Chicago.

"You strike at the heart of the en-
tire subject of American thinking,
which runs in waves, and, as you say,
'we are always more or less nuts
about something or other.' I am in
particular sympathy with the thoughts
you expressed in the 9th and 12th
paragraphs of your editorial.

"It is this type of clear expression
and post-war thinking, if you wish to
call it such, that is going to assist our
industry in building a bigger and bet-
ter place for ourselves in future com-
merce."

Owen-Illinois Corp. Plans Longview Plant

The Owens-Illinois Corp. recently
purchased 35 acres in Longview,
Wash., for this third West Coast fac-
tory, for which priorities applications
have been drawn up and presented to
the WPB, which has advised holding
construction in abeyance until the
German phase of the war is over.

Besides several one-story warehouse
structures, there will be two three-
story structures, two or three two-
story buildings, and several large
glass funaces, according to recent an-
nouncement of Lou Kessler, general
manager for Owens-Illinois on the Pa-
cific Coast.

The new Longview unit will serve
the Pacific Northwest. A five million
dollar plant of the company is located
at Oakland, Cal., the largest on the
coast. (Litteljohn.)

Reopens Office

The Great Lakes Transit Corp., last
American package freight line on the
lakes, has reopened its office at Du-
luth, Minn., after a year's shutdown.
The line has available four of its 14
former carriers, which were all re-
quisitioned by the government for war
service. Bookings are in carload-lot
freight between Duluth and Buffalo
only. Vincent F. Carbond is general
agent at Duluth and George V. Niemi,
port agent. (Kline.)

DALLAS, TEXAS

In Dallas It's Binyon-O'Keefe

MERCHANDISE STORAGE—POOL CAR DISTRIBUTION
Our modern Centrally located fireproof warehouse is completely equipped to serve you with over 75,000 square feet of merchandise and household goods storage space.

MOVING—STORAGE—PACKING—SHIPPING

BINYON-O'KEEFE
Fireproof Storage Co.

Since 1875

2201 LAWS ST., DALLAS 1
Associated with Distribution Service, Inc.

Since 1875

EL PASO, TEXAS

"Business of Merchandises"
"Service With Security"

International Warehouse Co., Inc.

1601 Magoffin Ave. El Paso, Texas

Lowest Content Insurance Rate
Fireproof Storage of Household Goods, Autos & Merchandise. State and Customs Bonded. Private Trackage—T. & P. and So. Pac. Rys. Pool Car Distribution—Motor Truck Service incorporated in 1920

Members—*NFWA—SWTA—Agent for Allied Van Lines, Inc.*

DALLAS, TEXAS

DALLAS TRANSFER AND TERMINAL WAREHOUSE CO.

Second Unit Santa Fe Building, Dallas 2, Texas

Modern Fireproof Construction—Office, Display, Manufacturers, and Warehouse Space



Operators of the Lone Star Package Car Company (Dallas and Fort Worth Divisions)
H. & N. T. Motor Freight Line
Agents for Allied Van Lines, Inc.

A.W.A., N.F.W.A., American Chain of Warehouses
Southwest Warehouse & Transfermen's Assn., Rotary Club

FORT WORTH, TEXAS

In Fort Worth It's Binyon-O'Keefe

MERCHANDISE STORAGE—POOL CAR DISTRIBUTION
Our modern Centrally located fireproof warehouse is completely equipped to serve you with over 90,000 square feet of merchandise and household storage space.

MOVING—STORAGE—PACKING—SHIPPING

BINYON-O'KEEFE
Fireproof Storage Co.

Since 1875

801 Commerce St., Fort Worth 1
Associated with Distribution Service, Inc.

Since 1875

FORT WORTH, TEXAS

Agents—**ALLIED VAN LINES, INC.**

Storage, Cartage, Pool Car Distribution

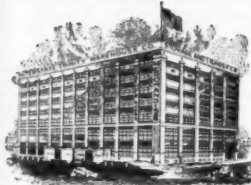
O. K. Warehouse Co., Inc.

255 W. 15th St., Fort Worth 1, Tex.

DALLAS, TEXAS

INTERSTATE-TRINITY WAREHOUSE COMPANY

301 North Market St., Dallas 2



Merchandise Storage and Distribution
Household Goods Storage.
Moving & Packing
Long Distance Hauling

R. E. ABERNATHY, Pres.
J. H. CHILES, Vice-Pres.

* Represented by **ALLIED DISTRIBUTION INC.**

NEW YORK 11 WEST 42ND ST. PHEN. 6-0967 CHICAGO 1525 NEWBERRY AVE. MON.5531

FORT WORTH, TEX.

Member—**SWA-AWA**

TEXAS & PACIFIC TERMINAL WAREHOUSE CO.

Warehouses—DALLAS—FT. WORTH

Merchandise Storage
Pool Car Distribution
Office, Display and Warehouse Space
Branch Office Facilities
Ample room for Automobiles and Truck parking

LOW INSURANCE RATES

HOUSTON, TEXAS

BINYON-STRICKLAND WAREHOUSES, INC.

Merchandise Storage — Pool Car Distribution
Centrally Located — Lowest Insurance Rate
Private Siding Southern Pacific Ry. Co.

Goliad & Morin Sts. Houston 13

DALLAS, TEXAS

SPECIALIZING
MERCHANDISE STORAGE
POOL-CAR DISTRIBUTION

SERVING THE GREAT SOUTHWEST AREA

EVERY ACCOUNT IS PERSONALLY SUPERVISED BY THE MANAGEMENT

KOON-McNATT STORAGE & TRANSFER CO.
1100 CADIZ ST., Dallas 2

CONTRACT OPERATORS FOR ALL RAIL LINES AND UNIVERSAL CARLOADING & DISTRIBUTING COMPANY

Over 10,000,000 Pounds of Freight Handled Monthly for Dallas Shippers

HOUSTON, TEXAS

Member of *Interlake Terminals*

FEDERAL WAREHOUSE COMPANY
915 N. San Jacinto St. Houston 2, Texas

General Merchandise Storage
Pool Car Service
Fireproof Sprinklered Warehouses
Located in the heart of the wholesale district

HOUSTON, TEXAS

Better Warehousing in HOUSTON

We operate a modern low insurance rate warehouse in the center of the wholesale, jobber, rail and truck terminal district. Most conveniently located for interior jobbers' trucks; well trained personnel; cooler space.

HOUSTON CENTRAL WAREHOUSE CO.
Commerce and San Jacinto Houston 1, Texas

Represented by **ALLIED DISTRIBUTION INC.**

NEW YORK 11 WEST 42ND ST. PHEN. 6-0967 CHICAGO 1525 NEWBERRY AVE. MON.5531

HOUSTON, TEXAS

Houston Terminal Warehouse & Cold Storage Company
701 No. SAN JACINTO ST., HOUSTON 2

General Storage Cold Storage U. S. Custom Bonded
A. D. T. Service Pool Car Distribution
Office Space Display Space Parking Space
Lowest Insurance Rate

New York Representative Phone PLaza 3-1235 Chicago Representative Phone Harrison 1496

DALLAS, TEXAS

Merchants Cold Storage of Dallas
Bonded

1,000,000 Cu. Ft. Cold Storage Space
Pool Car Distribution

1301-7 Broom St. — 1917 N. Houston St.
P. O. Box 5088, Dallas 2

People . . .



Allen Stone, traffic manager, Associated Industries, Chicago, was elected president of the Clearing-Cicero Industrial Traffic Conference, Chicago, for the ensuing year. Dean Jaynes, t.m., H. C. Knoke & Co., is new vice-president; Hugh Crawford, t.m., Johnson & Johnson, secretary, and Frank N. Hales, t.m., A. T. Hey Truss & Wheel Co., treasurer. New directors include A. W. Lindeman, Allen B. Wrisley Co.; John D. Mitchell, Midway Chemical Co.; John G. Regis, Victor Mfg. & Gasket Co.; G. Tretzema, Templeton Kemly & Co., and H. L. White, Jensen Radio Mfg. Co. (Slawson)

Robert F. Black, president, White Motor Co., Cleveland; Martin Lindsay, vice-president, Automatic Electric Co., Chicago, and James R. Stockton, president, Telfair Stockton Co., Jacksonville, were elected new directors of Pennsylvania-Central Airlines Corp.

Hayes Dever, assistant to C. Bedell Monro, president, Pennsylvania-Central Airlines, has been elected secretary of the company.

John W. White, vice-president and general manager, has been elected president and general manager of the Westinghouse Electric International Co., subsidiary of the Westinghouse Electric & Manufacturing Co., succeeding George H. Bucher, now chairman of the board of the International Co., and president of the parent firm. William E. Knox, formerly assistant general manager, becomes vice-president of the export subsidiary. (Kline)

Gus K. Weathered, president, Dallas Transfer & Terminal Warehouse Co., Dallas, Tex., has been elected mayor of Highland Park, residential suburb of Dallas.

E. H. Lamkin, executive secretary, Mayflower Warehousemen's Assn., Indianapolis, recently underwent an appendectomy, and is now convalescent at his home. His able assistant Mrs. Mabel Winstead is carrying on his work at the association office during his enforced absence.

Henry F. DeBardeleben, formerly vice-president in charge of marine operations of the DeBardeleben Coal Corp., has been elected executive vice-president and general manager, continuing his headquarters in New Orleans. Alvin W. Vogtle, with the firm 26 years, was elected vice-president, traffic and sales. His traffic responsibilities have been enlarged to include the marine transportation division. John W. Crawford, formerly secretary, was named secretary-treasurer, assuming duties of G. M. Bowers, retired. (Kline)

Thomas R. Clark has been appointed acting manager of the Elizabeth warehouse of the Lehigh Warehouse & Transportation Co., Inc., Newark, N. J., to succeed Neal Sullivan, resigned.

The following officers were recently elected by the Minnesota-Northwest Warehousemen's Assn.: president, C. George Gohlke, Kedney Warehouse Co., Inc., Minneapolis; vice-president, Lou Lockore, Northwestern Terminal Co., Minneapolis; secretary-treasurer, Ferris B. Martin, Minneapolis.

N. M. Koehl, who recently was promoted to special representative of the Universal Carloading and Distributing Co. at Milwaukee, has been returned to Fort Wayne, Ind., as manager there, succeeding H. D. Hinshaw,

who was named manager of the company's operations in Indianapolis. (Kline)

W. E. Fouse, vice-president of the General Tire and Rubber Co., Akron, has been elected treasurer, to fill the vacancy created by the resignation of T. Spencer Shore. (Kline)

Carl J. Brook, production manager, Great Lakes Steel Co., Mansfield, O., has been elected president of the Central Ohio Traffic Club for the coming year. (Kline)

The Shipper-Motor Carriers conference of Indiana has named J. W. Peters, traffic manager, Delco-Remy division of General Motors Corp., Anderson, Ind., as general chairman, succeeding H. A. Holloper. Kenneth O. Foster, Jr., vice-president, Foster Freight Lines, Indianapolis, is alternate general chairman. Homer Winn, executive secretary of the Indiana Motor Truck Association, is the new general secretary of the conference. Fenton Utley, Trans-American Freight Lines, is vice-chairman of the newly formed Claims Division. (Kline)

C. N. Oliver of Gretna is the new president of the Louisiana Motor Transport Assn.

James F. Weldon has been named executive vice-president of the A. J. Alsford Corp., Chicago, in charge of sales. He recently resigned as manager of the export division of the Zenith Radio Corp. and has been engaged in export work for the last 16 years. Mr. Weldon's appointment is the first of a series in connection with post-war foreign commerce planning by the company. (Kline)

HOUSTON, TEXAS

Receiving . . .
Weighing . . .
Sampling . . .
Warehousing . . .
Forwarding . . .

AT HOUSTON

. . . also Wharfingers offering
complete Shipside Services with
berthing space for eight steamers.

HOUSTON WHARF COMPANY

(Long Reach Docks)

OWNED AND OPERATED BY GULF ATLANTIC WAREHOUSE CO.
P. O. Box 2588 Houston 1, Texas

HOUSTON, TEXAS

PATRICK TRANSFER & STORAGE CO.

Merchandise and Household Goods Storage

Pool Car Distribution

Sprinklered—A.D.T. Watchmen
Shipside and Uptown Warehouses

Operators—Houston Division
Lone Star Package Car Co.

1117 Vine St. Agents for Allied Van Lines, Inc. Houston 1

Members N.F.W.A.
State and Local Assn.

HOUSTON, TEXAS

MERCHANDISE DISTRIBUTION

COMMERCIAL STORAGE—

OFFICE SPACE — PARKING SPACE

T. P. C. STORAGE & TRANSFER CO., INC.

2301 Commerce Ave., Houston 2

HOUSTON, TEXAS

W. E. FAIN, Owner and Manager
Established 1901

TEXAS WAREHOUSE COMPANY

Forty-three Years

Under Same Continuous Management

MERCHANDISE EXCLUSIVELY

Pool Car Distribution

Sprinklered Throughout

A.D.T. Supervised Service

HOUSTON, TEXAS

Agent for Allied Van Lines, Inc.

UNION Transfer & Storage Co.

1113 Vine St. P.O. Box 305, Houston 1

Forwarding and Distributing

MERCHANDISE STORAGE

Warehouses Sprinklered Throughout.

Supervised by A.D.T. Service.

SERVICE THAT COUNTS

HOUSTON, TEXAS

UNIVERSAL TERMINAL WAREHOUSE CO.

1006 WASHINGTON AVE., HOUSTON 1

Merchandise Storage—Pool Car Distribution

Sprinklered—A.D.T. Watchmen

— U. S. Customs Bonded —

— Office Space —

New York Representatives:

DISTRIBUTION SERVICE, INC.

2 Broadway (4)

Members A.W.A. and State and Local Associations.

Chicago Representatives:

DISTRIBUTION SERVICE, INC.

219 E. North Water St. (11)

HOUSTON, TEXAS

BENJ. S. HURWITZ, Pres.

WESTHEIMER

Transfer and Storage Co., Inc.

2205 McKinney Ave., Houston 1

OVER 50 YEARS IN HOUSTON

Merchandise & Household Goods Storage—Pool Car Distribution—

Lift Van Service—20 car lengths of truckage.

Fireproof Warehouses—A.D.T. Automatic Fire and Burglary Protection.

Members N. F. W. A. State and Local Assn.

Agent for Allied Van Lines, Inc.

HOUSTON, TEXAS

Merchandise

MERCHANTS

Household Goods

TRANSFER & STORAGE CO.

Merchants & Transfer Sts., San Antonio &

Complete Storage and Distribution Service

Over 50 years of satisfactory service

Member of A.W.A.—N.F.W.A.—S.W.A.

SAN ANTONIO, TEXAS

Muegge-Jenull Warehouse Co.
BONDED FIREPROOF
POOL CAR DISTRIBUTORS
STORAGE AND DRAYAGE
Dependable Service Since 1913

SAN ANTONIO, TEXAS

Agent for Allied Van Lines, Inc.

Scobey Fireproof Storage Co.
 311-339 North Medina St., San Antonio 7
HOUSEHOLD - MERCHANDISE - COLD STORAGE - CARTAGE
DISTRIBUTION
INSURANCE RATE - - - 10c
Members of 4 Leading Associations



SAN ANTONIO, TEXAS

SOUTHERN TRANSFER & STORAGE CO.
 P. O. BOX 4007, STA. A, SAN ANTONIO 7
Specialists in Merchandise Distribution
FIREPROOF CONSTRUCTION
BONDED STORAGE
 Represented by **ALLIED DISTRIBUTION INC.**
 NEW YORK 12 WEST 42ND ST. PHILADELPHIA 6-0067 CHICAGO 1525 NEWBERRY AVE. MORGAN



TYLER, TEXAS

J. F. WOMACK, Owner & Manager

TYLER BONDED WAREHOUSE & STORAGE COMPANY
Established in 1923
Bonded under the Laws of Texas
 General Storage and Distribution from the Center of East Texas.
 Specializing in Pool Car Distribution and Merchandise Warehousing.

Joseph M. Barr, assistant general manager of the Chance Vought Aircraft Division of the United Aircraft Corp., East Hartford, Conn., has been named manager of the export department of the United Aircraft Corp. (Kline)

Joseph H. Wallis, formerly with the Massachusetts Institute of Technology, at Cambridge, Mass., has been appointed electronic engineer for the Baltimore and Ohio Railroad Company. (Ignace)

Edward A. Egan has been named director of industrial relations for the General American Transportation Corp., Chicago, and all its divisions, with headquarters in the Field Bldg., that city. (Kline)

Arthur F. Skaife, manager, San Francisco district for the Westinghouse Electric Elevator Co., has been promoted to a newly created post of Pacific Coast District manager. (Herr)

Thorpe E. Wright, former advertising executive with the Link Belt Company, has joined the copy staff of Erwin, Wasey & Co., Ltd., Chicago.

C. B. Belknap has been elected executive vice-president of Owens-Illinois Glass Co., Toledo, to succeed Randolph H. Barnard, resigned. S. K. Beetham has been appointed advertising manager of the Owens-Illinois Can Co., a subsidiary of the Owens-Illinois firm, and will also continue his previous duties as advertising manager of the Libbey Glass Division of the parent concern. (Kline)

Charles A. Barrows has resigned as export sales manager Midland Flour Milling Co., Kansas City, Mo., to become assistant manager and southeastern sales director for Valier & Spies Milling Co., St. Louis, succeeding A. G. Ehernberger, resigned. Julio H. Valdes, for nearly 25 years Latin American representative for the Midland Flour Milling Co., was named export manager, and has transferred to Kansas City from San Juan, Puerto Rico. (Kline)

Thomas W. Flood has been appointed

original equipment sales manager of the Electric Auto-Lite Co., Toledo, having formerly been assistant original equipment sales manager. Prior to that he was sales manager for the company in the Chicago territory. (Kline)

Robert B. Davis, general manager, Raybestos Division, Bridgeport, Conn., was elected a vice-president of Raybestos-Manhattan, Inc., by the directors of the corporation, recently. Mr. Davis joined Raybestos in 1915 as a sales representative and was promoted to the position of sales manager in 1923, and general sales manager in 1932. His appointment as general manager was made in 1939.

Wilson B. Harkins, formerly export manager, Stanley G. Flagg Co., Philadelphia, has become manager of the hardware department of Ballagh and Thrall, that city, export sales managers. (Kline)

The Electric Storage Battery Co., Philadelphia, announces the election, by the Board of Directors, of C. F. Norberg to the office of vice-president in charge of manufacturing and D. N. Smith to that of comptroller.

Floyd M. Russell, general traffic manager, General Fireproofing Co., Youngstown, has been renamed chairman of the executive committee of the Allegheny Regional Advisory Board at its recent meeting in Pittsburgh. (Kline)

The first annual "Aviada," commemorating the historic flight from Los Angeles, Cal., to Las Vegas, Nev., on April 17, 1926, which marked the nation's first commercial cargo of airmail, was celebrated in Las Vegas, April 17. Fred Kelly, who made the initial flight in a single engine open cockpit Douglas mail plane, made the same trip in a Douglas airliner. He is now chief pilot of Western Air Lines. (Herr)

Arthur G. McKeever, first president of the Local Cartage Association of the United States and former managing director of Merchant Truckmen's Bureau, has been named president of the Motor Carrier Assn. of New

OGDEN, UTAH

MEMBER OF A.W.A.

WESTERN GATEWAY STORAGE CO.
GENERAL WAREHOUSING
POOL CAR DISTRIBUTION
MERCHANDISE AND COLD STORAGE

SALT LAKE CITY, UTAH

CENTRAL WAREHOUSE
 520 West 2nd South St., Salt Lake City 1
Fireproof Sprinklered
 Insurance rate 18c. Merchandise Storage.
 Pool Car Distribution. Office Facilities.
 Member A. W. A.



SALT LAKE CITY, UTAH

Merchandise Storage and Distribution
 Over 1,000,000 cubic feet reinforced Concrete Sprinklered Space
 Insurance Rate 11 Cents
CORNWALL WAREHOUSE CO.
 353 West 2nd South St., Salt Lake City 1
 Represented by **DISTRIBUTION SERVICE, INC.**
 New York-Chicago-San Francisco

SALT LAKE CITY, UTAH

Storage-Pool Car Distribution

KEYSER MOVING AND STORAGE CO.
 328 West 2nd South, Salt Lake City 1 Est. 1910
 72,000 sq. ft. space. Reinforced concrete and brick. Dignified, accessible, and central location. UP, spur with free switching from or to other lines. P-U&D service rail or truck. Systematic delivery service twice daily. 96% Co-ins. rate 19¢ per \$100.00. A.D.T. automatic burglar and fire protection. Office and desk space available.
 Member AWA-UVL-UWA-AWI



York which is a combine of the Merchant's Bureau and the Highway Transport Assn. of that city.

H. M. Ramsay has been appointed sales manager, tractor and implement tire division of United States Rubber Co., with headquarters at Detroit. J. W. McGovern, general manager of the tire division has announced. A native of Boston, Mr. Ramsay attended Massachusetts Institute of Technology and Harvard College, where he was a member of the class of 1922.

Evan E. Young, vice-president, who has been in administrative charge of Pan American Airways' 48,000 miles system of air transport routes in Latin America, is retiring from active duty after 15 years with the international airline, Juan T. Trippe, president, Pan American World Airways System, has announced. Mr. Young will be succeeded by vice-president Howard B. Dean.

Hayes R. Jenkins, secretary, and Cyril F. O'Neil, Cleveland area distributor, have been elected directors of the General Tire and Rubber Co., Akron, O., succeeding the late Thomas F. O'Neil and T. Spencer Shore, resigned. (Kline)

Newly elected president of the Rotary Club of Los Angeles is Henry M. Burgeson, vice-president in charge of sales and advertising for coast-wide Lyon Van & Storage Co., of Los Angeles. Burgeson has served as president of Rotary for the past year and will assume the duties of president of the Club on July 1.

Stoddard Caribbean Corp. has named H. J. Blood, Jr., general freight agent, and M. J. Bozza, formerly his assistant, succeeds him as traffic manager. (Kline)

D. R. Williams, for 18 months an examiner for ODT, has resumed his duties as head of the D. R. Williams Trailer Co., associated with Hughes-Scott-Frank Co., Columbus, O. For 12 years before assuming the ODT post, Williams was a distributor for Kingham Trailers. His firm will continue in this capacity. (Kline)

James S. Kennedy has been appointed controller of Lecrone-Benedict Ways, Inc., with main offices in Detroit. John Bridge, chairman of the board has announced. Kennedy has been in the transportation field more than 25 years, having been previously identified with the traffic divisions of the Rock Island and Southern Pacific Railroads, and from 1928 to 1931 was manager of the Ford Rubber Plantation project in Brazil, S. A. (Kline)

Henry F. Dowdy, who has been in charge of the Seattle sales offices for the General Foods Co since 1930, has been promoted to manager of the San Francisco district, succeeding William R. Hadley, retiring because of ill health after 36 years. Clifford W. Davis, who succeeds him at Seattle, was the Salt Lake district manager previously. (Littlejohn)

Burt Pharis has been named to the newly-created post of director of public relations for the Pharis Tire and Rubber Co., Newark, O., and will retain his present duties as Pharis office manager. (Kline)

Announcement is made by Harnischfeger Corp., Milwaukee, of the appointment of Frank M. Blum as manager of the P&H Crane Sales Division, to succeed Ben Van Horn who, after 47 years continued association with the company, has retired. Mr. Blum takes over the post with a notable record as assistant manager of the division since 1938.

Lloyd J. Colenback, former vice-president and director of Toledo Scale Co., Toledo, O., has been elected vice-president and general manager of the Howe Scale Co., Rutland, Vt. (Kline)

Homer C. King, director, Bureau of Service of the I.C.C., has been named executive assistant to Col. J. Monroe Johnson, director Office of Defense Transportation.

W. P. Williams, executive vice-president and sales manager of the Seymour Packing Company, and widely known throughout the country in the egg and poultry industry, will retire from business.

Justin Gleichauf, formerly commodity licensing officer with the Foreign Economic Administration, Washington, D. C., has been named to the staff of the world trade department of the Los Angeles Chamber of Commerce. (Herr)

Vincent M. Smith, former executive secretary, Aircraft Traffic Assn. of Southern California, has been appointed sales manager of the joint operations of Collette Fast Freight and Comet Freight Lines of Los Angeles. (Herr)

The DuPont Co. announces the appointment of Milton L. Brown as superintendent of the Everett, Mass., plant to succeed K. B. Stapleton recently transferred to the Automotive Division at Detroit. (Wellington)

Lt. Col. Walter D. Brennan, former shipping executive of Seattle, Wash., now serving with the water division of the Army Transportation Corps, has been decorated by the Soviet government. He was formerly Northwest manager for the Pacific-Atlantic Steamship Co. (Littelljohn)

Homer J. Merchant, western sales manager, United Airlines at Los Angeles, has been named eastern sales manager. S. R. Newman has been appointed acting western sales manager. Both transfers, the company announced, were brought about by the temporary vacancy in the position of eastern sales manager created by the military leave granted to N. H. Rader, who is serving as a captain in the Marine Corps. (Herr)

The Los Angeles Traffic Managers Conference has elected the following new officers for the 1944-45 term: president, R. J. Jones, General Foods Corp.; vice-president, Harold Smith, Western Auto Supply Co.; secretary-treasurer, L. A. Bey, William Volker & Co. (Herr)

W. E. MacMahon, district manager, Luckenbach Steamship Co., Inc., was elected president of the Los Angeles Steamship Assn. at its meeting in April, succeeding H. E. Dorr of Norton, Lilly & Co. Hugh Middleton, district manager, De La Rama Steamship Co.,

was elected vice-president, and Fred A. Hooper, American-Hawaiian Steamship Co., secretary-treasurer. (Herr)

Frank T. Hannan, supervisor of the Order and Stores Division at General Electric's Schenectady Works, has become the 466 G.E. employee to run up a record of 50 years of continuous service with the company.

Tolbert A. Rice, assistant to the manager of the Atlantic Division, Pan American Airways, has been named district manager for the United Kingdom and Eire, with headquarters at Pan American's office in London, and will proceed to his new assignment immediately.

Looking to the post-war possibilities of wireless communication in railroading, the new post of electronics engineer has been created on the Illinois Central Railroad and assigned to Paul B. Burley, an electrical engineering graduate of the University of Illinois, class of 1921. Mr. Burley, who has been employed by the railroad ever since his graduation.

Martin J. Murphy, Jr., has been made general manager, Arizona Motor Transport Assn. From end of 1935 to October, 1943, he was assistant manager transportation department, General Petroleum Corp., California. (Gidlow)

Dr. Henry F. Grady, president, American President Lines, who has been in Italy in his capacity as high ranking American official in the Economic Section of the Allied Control Commission, returned to San Francisco in April. He says the job ahead for re-establishment of peacetime economic life in devastated countries is tremendous. (Gidlow)

Ed H. Harms has rejoined the McCormick Steamship Co., as operating manager. He was with this company 18 years prior to taking the job of Pacific Coast Director, WSA, in Southern California. (Gidlow)

Dupuy Bateman, Jr., president, Gulf Atlantic Warehouse Co., and Houston Wharf

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OBJECTS of ART
FURS - RUGS
VALUABLES

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Wm. T. Laube, Jr., Secretary

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Lloyd X. Coder, Pres.-Mgr.

Est. 1919

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Nearest Distributing Point
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Merchandise and Household Goods Storage

Two Furniture Warehouses

Motor Freight Terminal for

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Chicago Northwestern siding, free switching

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Est. 1920

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Pool Car Distribution Sales Representation
Brick building equipped for economical storage and
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271 Madison Ave. (16)

Marinette Office:

1720 Pierce St.
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Pool Car Distribution
Transit Storage
Household Goods Storage
Heated—Unheated—Yard
Storage
Waterfront Facilities
Stevedore Services

U. S. Customs, State and
Public Bonded
30 Car Track Capacity
Modern Handling
Equipment
Private Siding on C&NW,
CMS&P&P, G&W Lines
Reciprocal Switching all
lines

Complete local and over-the-road truck services with 70 units
of all types of equipment, including low-bed trailers, winches
and cranes.

Aero-Mayflower moving and storage. Inquiries invited



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CENTRAL STORAGE AND WAREHOUSE COMPANY

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DRY STORAGE

FREEZER STORAGE

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— UNEXCELLED —

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RAILROAD SIDINGS AND
DOCKING FACILITIES

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Co., a division of Gulf Atlantic Warehouse Co., has announced that Claude T. Fuqua, Jr., has been designated as executive vice-president of the company, and John C. Mayfield has been elected a vice-president. H. J. Luhn, vice-president, whose duties formerly consisted principally of the operation of Houston Wharf Co. has had his activities broadened and will henceforth devote his efforts to diversifying the business of all of the plants of the company's plants in Texas and Louisiana have been placed under John C. Mayfield, as general manager, and H. J. Jepsen, vice-president, as operating manager. The company's plants in Tennessee, Alabama, Georgia, Florida, North Carolina and South Carolina have been placed under I. A. Roberts, vice-president, as general manager; Alfred Bessell, Jr., vice-president, as assistant general manager, and F. A. Robertson as operating manager.

General Tire and Rubber Co., Akron, O., has organized a new southwestern division, in charge of Ward A. Morse, formerly Kansas City branch manager, with headquarters at Dallas, Tex. A. B. Nichols was named manager of the new Dallas branch, and Harry Whitesell, manager of the new Houston branch. John S. Walker was named in charge of the Memphis branch, which has been reopened. L. L. Higbee was named Kansas City branch manager. (Kline)

S. V. Hall, regional vice-president of United Air Lines, has been assigned to management of the company's military operations for the Air Transport Command to Alaska and across the Pacific. (Herr)

Merrill A. Foster, traffic manager of Prairie State Motor Freight Co., Springfield, Ill., has entered the Army, and been sent to New Orleans in the transportation corps. He has been replaced by Ralph Truitt, formerly traffic counsellor with the Springfield Chamber of Commerce. (Kline)

Louis F. Cruinn has joined Pan American Airways traffic advertising department as Advertising Production Manager. He succeeds Kenneth C. Gunter, who has been appointed advertising manager (acting).

Kenneth Anderson has been named manager of the Lillie Transportation Co. at Stockton, Cal. (Herr)

Frank C. Dyer, superintendent of communications for Braniff Airways at Dallas, Tex., has been appointed to assume charge of preparations for the operation of Aerovias Braniff, S. A., a Mexican airline.

Alfred P. Darcel, of Crane Ltd., Montreal, has been appointed a vice-president of the National Industrial Advertisers Assn., according to an announcement by NIAA president Frederic I. Lackens, The Hays Corp., Michigan City, Ind.

Harold J. Roig, has been re-elected president and director of Pan American-Grace Airways, Inc. Howard B. Dean, who has been re-elected as a director has also been made vice-president of the airline.

William J. Sinek was re-elected president and chief executive officer of the City Ice and Fuel Co., Chicago, at the largest stockholder's meeting in the history of the company recently.

George Rodocker, general sales manager, Indianapolis Forwarding Co., was installed recently as president of the Junior Traffic Club of Chicago. Mr. Rodocker is the 21st president of the organization, and the first motor transport representative to head this organization, reputed to be the largest traffic club in the country, with over 1800 members. In addition to Mr. Rodocker, the following were installed as officers: vice-president, Joseph R. Lyons, Gallagher & Ascher Co.; secretary, Ralph C. Kintz, Peabody Coal Co.; treasurer, Leonard F. McBrien, New York Central System.

OBITUARY

Jesse H. Chiles, 56, vice president of the Interstate-Trinity Warehouse Co., Dallas, Texas, died April 16. Mr. Chiles had recovered from an illness in January, but became ill again several weeks ago. Associated with warehousing for more than 30 years, he was

named vice president of the Interstate-Trinity Warehouse Co. in 1940.

Clement O. Miniger, 69, chairman of the board and founder of the Electric Auto-Lite Co., Toledo, died April 23. He was president of the company until failing health forced his retirement a few years ago. He was vice-president in charge of production of Willys-Overland Motors, Inc., during World War I and president in 1929 when he and a group of associates purchased 800,000 shares of stock controlled by John N. Willys. (Kline)

Harold J. De Long, 44, owner of the Madison Storage Warehouse, Malden, Mass., and the People's Storage Warehouse Co., Inc., Roxbury, Boston, Mass., died April 27 at his residence, 20 Earl St., Malden. He was a member of the Coast Guard Temporary Reserve, Boston City Club, Malden Club, Bellevue Golf Club, and the Winthrop Yacht Club. He formerly was in the battery business with his brother Charles E. and later became a salesman for a radio equipment firm before entering the warehousing industry. (Wellington)

Jefferson J. Blanck, 81, president, Blanck Transfer and Storage Co., Pittsburgh, Pa. He was a charter member of the Pittsburgh Athletic Assn. and a past vice-president of the Pittsburgh Furniture Warehouse Men's Assn. (Leffingwell)

Lt. Col. Lucius B. Manning, 60, Chicago, was among eight men killed in an airplane accident in Alabama April 9. At the time of his death he was a director of Aviation and Transportation Corp., and had served as a director of the Auburn Automobile Co. and as vice president of the Cord Corp. He was stationed at Hunter Field, Savannah, Ga. (Kline)

David F. Teepie, 75, operator of the D. F. Teepie Trucking Co., which operates trucks between Port Wayne and Richmond, Ind., died April 17 of a heart ailment, in Decatur, Ind. (Kline)

E. Rex Smith, 60, president, Crescent Mfg. Co., Seattle, packer of coffee and spices, died

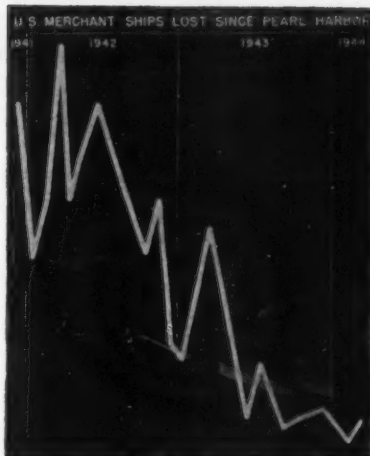
in April at Swedish Hospital, Seattle, following a heart attack. He served many years on the board of trustees of the Seattle Chamber of Commerce, and was past president of the Washington Mfrs. Assn. Born in Monroe, Pa., July 31, 1888, he went as a youth to Seattle, and attended the University of Washington where he was a prominent athlete. (Litteljohn)

George R. Gardner, 59, who began his career with the Pennsylvania Railroad at 16 and in 1941 became chief clerk, traffic department, Pittsburgh Coal Co., died March 31, after a two-day illness. He was active in the Pittsburgh Traffic & Transportation Ass'n. (Leffingwell)

Thos. J. Wade, owner and operator, Wade Transportation Co., died in Los Angeles April 5, of pneumonia. He was treasurer of Southern California Truck Owners' Assn. and a member of its executive committee. (Gidlow)

Buys Stock

Entire capital stock of the American Paper Bottle Co., Toledo, O., consisting of 4,314 common shares of no par value, has been purchased by Ex-Cell-O Corp., Detroit, Mich., at \$160 a share, according to a report filed with the Securities and Exchange Commission. (Kline.)



New Motor Terminal

Lechrone-Benedict Ways, Inc., Detroit, is opening a new terminal at 300 S. St. Clair St., Toledo. According

to L. Paul De Loreto, traffic manager, this makes a total of 13 terminals now operated by the firm. (Kline.)

ODT Issues Booklet

On Care of Vehicles

A pamphlet entitled "Rehabilitation and Preventive Maintenance," dealing with ODT's rehabilitation program for trucks and buses and the kindred subject of preventive maintenance measures to maintain existing transportation equipment is being distributed by ODT.

The booklet discusses 1944 prospects for civilian commercial motor vehicles, the ODT truck and bus rehabilitation program for 1944, preventive operation, preventive maintenance, and contains a short guide for having vehicles checked and repaired in filling stations, garages and repair shops after 1,000 miles of operation.

Copies of the pamphlet may be obtained from the Office of Information, Office of Defense Transportation, Washington, D. C.

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Largest in Wisconsin

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TRACK CAPACITY FOR 50 CARLOADS
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"Milwaukee's Finest"

National Warehouse Corporation



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EVERY CONCEIVABLE

WAREHOUSE & DISTRIBUTION SERVICE AFFORDED

A.D.T. Service

468 E. Bruce St., Milwaukee 4

C. & N.W.R.R. Siding



MILWAUKEE, WIS.

—Phone Marquette 7091

TERMINAL STORAGE CO.

100-112 W. Seeboth St.

Milwaukee 4, Wisconsin

Cooler, Freezer and General Merchandising Storage

Deep Water Dock, Private Siding
on C.M.&St.P. & P. R.R.

Since 1911 our furniture pads have been the industry's first line of defense against damage claims



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Quilt & Pad Co.**

82 FRANKLIN STREET, NEW HAVEN 11, CONN.

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